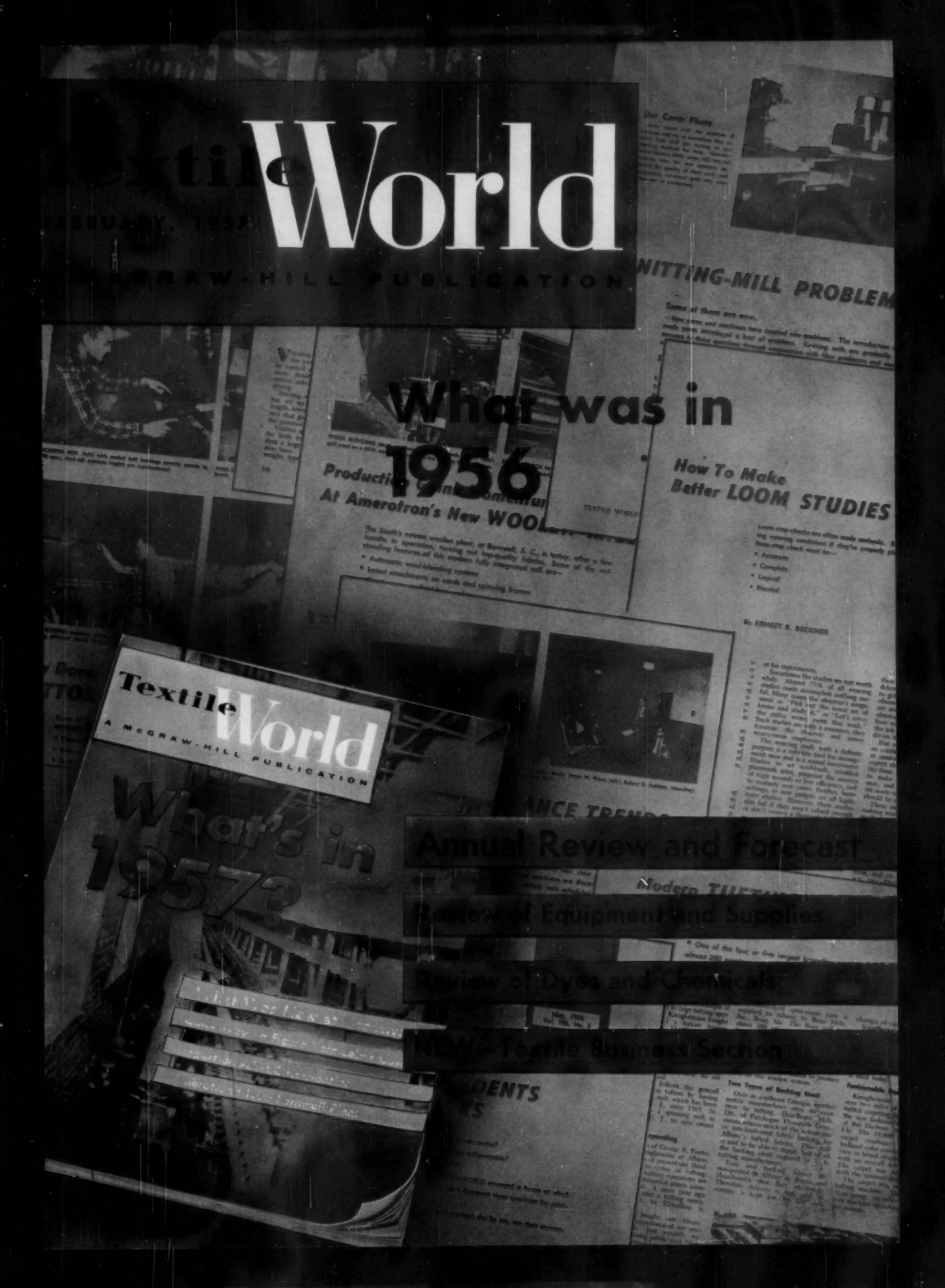
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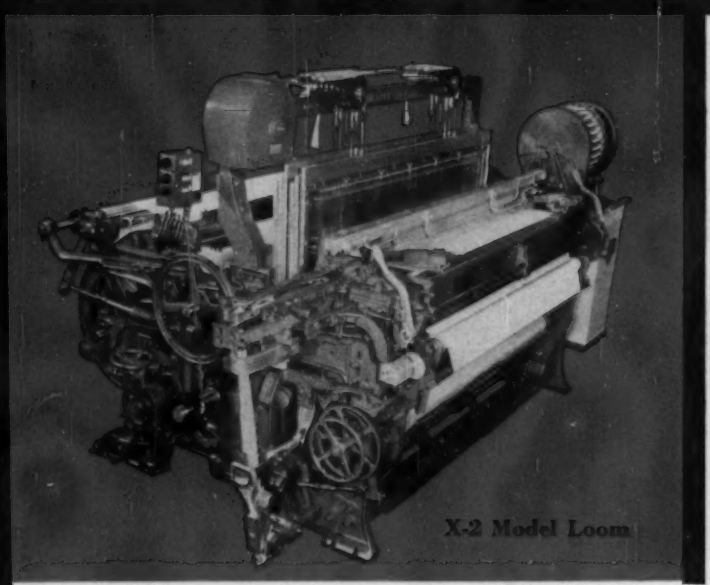
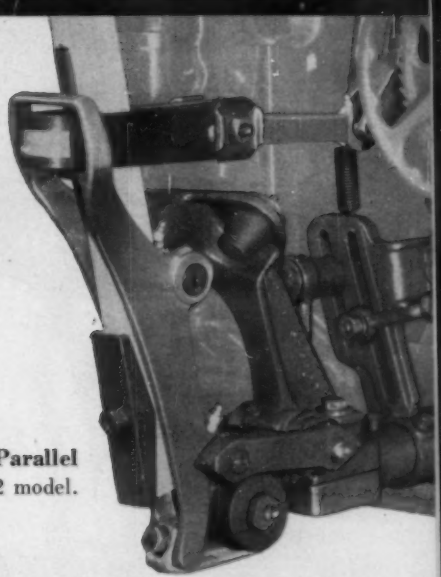


X-2 Model Loom



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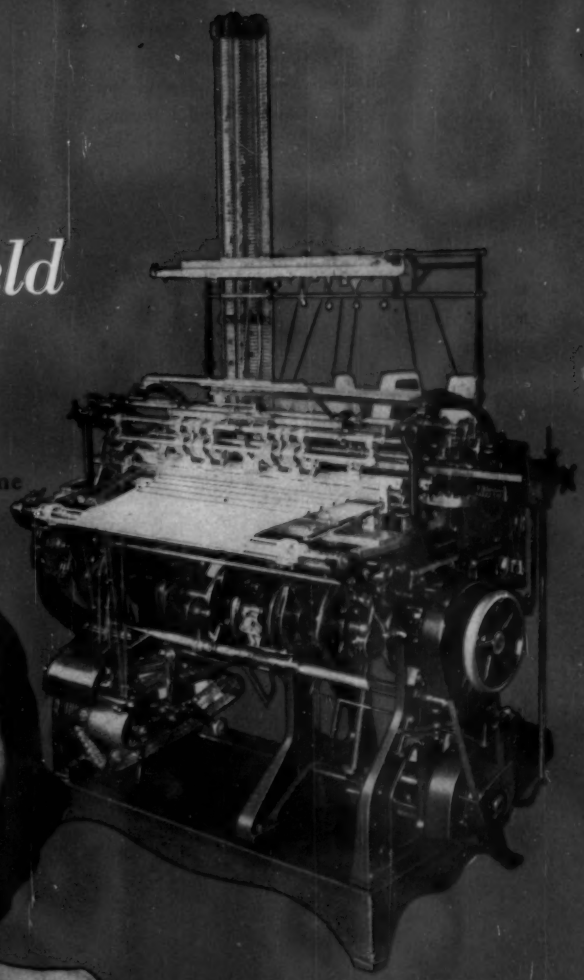

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CALENDAR

February

American Society for Testing Materials, annual committee week and spring meeting, Benjamin Franklin Hotel, Philadelphia, Pa., Feb. 4 to 8.

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Feb. 6.

AATCC, Midwest Sect., Hotel Bismarck, Chicago, Ill., Feb. 16.

American Society for Quality Control, Textile Div., Harrison Hightower Building, A. French Textile School, Georgia Institute of Technology, Atlanta, Ga., Feb. 25 to 27.

International Heating & Air-Conditioning Exposition, International Amphitheatre, Chicago, Ill., Feb. 25 to Mar. 1.

Cotton Research Clinic, National Cotton Council of America, General Oglethorpe Hotel, Savannah, Ga., Feb. 27 to March 1.

March

AATCC, New York Sect., Hotel Delmonico, New York, N. Y., March 1.

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., March 6.

National Council for Textile Education, spring meeting, Wilmington, Del., March 11 to 13.

Textile Research Institute, annual meeting, Hotel Commodore, New York, N. Y., March 14 & 15.

Southern Textile Methods and Standards Association, spring meeting, Clemson House, Clemson, S. C., March 14 & 15.

Textile Quality Control Association, spring meeting, Clemson House, Clemson, S. C., March 28 & 29.

April

American Cotton Manufacturers Institute, annual convention, Palm Beach Biltmore Hotel, Palm Beach, Fla., April 4 to 6.

National Packaging Conference and Exposition, sponsored by American Management Association, International Amphitheatre, Chicago, Ill., April 8 to 11.

Alabama Cotton Manufacturers Association, 56th Anniversary Meeting, Buena Vista Hotel, Biloxi, Miss., April 10 to 12.

National Knitted Outerwear Association, annual meeting, Waldorf-Astoria, New York, N. Y., April 23 & 24.

American Cotton Manufacturers Institute, Inc., Cotton Fiber Testing Laboratory, open house, Clemson House, Clemson, S. C., April 24 & 25.

The Underwear Institute, annual meeting, Hotel Traymore, Atlantic City, N. J., April 29.

Knitting Arts Exhibition, Convention Hall, Atlantic City, N. J., April 29 to May 3.

Materials Handling Exposition, Convention Hall, Philadelphia, Pa., April 29 to May 3.

May

The Fiber Society, spring meeting, Clemson House, Clemson, S. C., May 1 & 2.

Cotton Manufacturers Association of Georgia, annual convention, Emerald Beach Hotel, Nassau, Bahama Islands, May 1 to 4.

North Carolina Industrial Safety Conference, Robert E. Lee Hotel, Winston-Salem, N. C., May 9 to 11.

American Society for Quality Control, annual convention, Masonic Temple, Detroit, Mich., May 22 to 24.

South Carolina Textile Manufacturers Association, annual meeting, The Cloister, Sea Island, Ga., May 30 to June 1.

Tufted Textile Manufacturers Association, annual convention, Fontainebleau, Miami Beach, Fla., May 30 to June 1.

June

Southern Textile Association, annual convention, Ocean Forest Hotel, Myrtle Beach, S. C., June 20 to 22.

September

Combed Yarn Spinners Association, annual meeting, The Cloister, Sea Island, Ga., Sept. 26 & 27.

Carded Yarn Association, annual meeting, The Cloister, Sea Island, Ga., Sept. 27 & 28.

October

Chemical Fnishing Conference, National Cotton Council of America, Statler Hotel, Washington, D. C., Oct. 2 & 3.

National Industrial Packaging & Handling Exposition, Convention Hall, Atlantic City, N. J., October 28 to 31.

November

AATCC, national convention, Hotel Statler, Boston, Mass., Nov. 14 to 16.

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GUARANTEE
The quality of BOGER & CRAWFORD Yarn is guaranteed — the highest tribute we can pay it!
Frederick Boger

15 Checks To Inspect PURCHASED YARN

An inspection program of all yarn bought outside the mill should include—

- Examination of cone appearance
- Checks on weight, twist, and yarn size
- Test of processing qualities

By P. WIERKS, Leach Textiles Ltd.

WHEN YOU RECEIVE YARN from an outside source you ask yourself these questions: (1) Is this the yarn I ordered? (2) Did I receive what I paid for? (3) Did I buy the right yarn for the right job? A positive answer to these questions can be assured only by a systematic inspection that covers cone appearance, the yarn itself, and the processing qualities of the yarn.

Cone Appearance

1. A well-wound cone shows a symmetrical pattern of yarn layers that are undisturbed from top to bottom. The sides of this cone give the impression of a straight diagonal line without hills. The yarn below a fault formed by such a hill would, during overhead unwinding, be subject to high tension and friction.

2. The yarn at the top and bottom of the cone should lie in true circles. Ends protruding over the top or bottom surface and crossing other circles are likely to break when unwound at high speeds. The top of the paper tube should be visible. An overrun cone will not unwind smoothly at the end.

3. Handling, packing, and transport are not always done with the necessary care cones require. Yarn rubbing and small cuts where the cones have hit a sharp edge are readily noticeable at the top and bottom edges.

4. The cone should be firmly wound. Too-soft cones hold less yarn and affect the efficiency of the next process. In severe cases the yarn will unwind in bunches.

5. Cone weight can be important in special cases such as when an order for a creel calls for 50 ends to be covered by 50 lbs. of yarn. This lot must be ordered on 1-lb. cones to avoid splitting the cones.

Yarn

6. Inspect actual weight of the yarn against the invoice weight to guard against human errors. Bookkeeping and shipping are done by different people, and a hastily written 7 can often pass for a 9.

7. The scale weight is affected by moisture content and could be wrong due to the testing procedure at the shipping point. The difference between scale weight and actual yarn content can be a high figure for a large shipment.

8. The yarn number must be checked carefully. Too-coarse yarns provide a loss for the mill because the fabric will be too heavy, while too-fine yarns open the door for customers' complaints.

ASTM standards allow a tolerance of one yarn number either way from standard for medium-size worsted yarns. ASTM standards for cotton yarns permit a variation of ±3%, and 5% for spun-rayon yarns.

9. The raw material in the yarn is the cause of one of the main price variations for yarns of the same number. The ideal way to inspect this item is a thorough analysis, but many mills prefer to investigate this point only when the raw material is believed to be substandard.

10. Correctly twisted yarn should have (1) the correct direction of twist, (2) the specified amount of turns per inch, and (3) an even distribution of twist. The turns per inch, measured over several 10-in lengths, should conform to the number stated on the yarn order and evenly distributed over longer distances.

Here again, ASTM standards permit a variation. Woolen and worsted yarns are acceptable when the twist does not vary more than 7.5% from specified twist. Cotton yarns should stay within a 10% limit for singles or 5% for plied yarns. A 5% variation is allowed for spun-rayon and acetate yarns.

11. High-priced yarns should be outstanding for evenness and appearance, while an attractive price will offset a certain lack of those features in lower grades. The yarn should be reasonably free from visual faults such as thick ends, slubs, neps, foreign waste, dirty or oily spots; and it should appear even to the eye.

12. Sufficient strength to withstand subsequent processes is a necessity for all yarns. A quick, manual examination will show if the yarn has at least the required minimum strength. Take about 4 ins. of yarn between the thumb and forefinger of each hand and apply a slow, steady pull by moving the hands outward. A clear cut at both breaking points without any of the components protruding is a promising sign for the absence of such faults as cracked ends.

13. The shade of dyed yarn must match the original sample. Although the variations between the original sample and the first shipment may not be significant, the variation between the original sample and the second shipment could be too much.

Processing Qualities

14. The unwinding qualities of the cones can be accurately rated while you are checking the over-all yarn length for evenness, waste, strength, and twist. A cone can appear to be ideal on the surface but the yarn may bunch, block the tension devices, and increase waste.

15. Check the knots. If a too-short tail end is left, slippage might occur and cause a yarn break. Long tails cause headaches for weavers and burlers.

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...FLIP OF A SWITCH CASTS OUT INDIVIDUAL ENDS

McBRIDE INSTANT-STOP in operating position. Red switch on right controlling entire bank is "on"; 4 switches controlling 4 drop wires on "off" position for 4 inactive ends. Note that inactive ends may remain threaded through drop wires.

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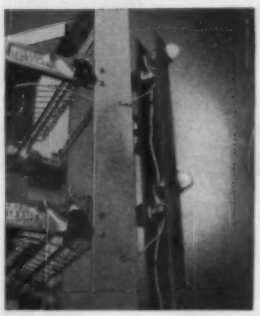
- Instant cast out of an individual end or an entire bank of ends by the simple flick of a switch.
- Inactive ends may remain in position—no lost down time when they are reactivated.
- Three sizes available to cover the complete range of yarns from 12 denier nylon to tire cord, asbestos, and even wire.
- Three way signal light. (1) Light out—creel operating satisfactorily; (2) Light on—broken end *and its location;* (3) Light blinking—threading in position.



McBRIDE 3-WAY SIGNAL LIGHT. The light channel is of heavy gauge steel that protects the wiring. It is hinged to permit ready access. Bulbs are quickly replaced without opening the channel.

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Letters from Readers

We welcome your comments. Whether you agree or disagree, with us or anybody else, we will be glad to have you air your views.

Unless you ask us not to, we will use your name and company connection when your letter is printed. If you prefer to have your opinions appear unsigned, we will respect your confidence by using only a set of initials.

Write to Editor, Round Table, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.

IMPORT QUOTAS NEEDED FOR SURVIVAL

Dear Editor:

Your editorial in the December issue of TEXTILE WORLD [Import Quotas: A Breathing Spell, p. 69] presents some alarming thinking that forbodes more black days for the American textile industry if it is an accurate prophecy of things to come.

To answer your arguments:

1. "Quotas can only be temporary."

The textile industry had to have protection due to the great spread in costs between the U. S. and Japan. It preferred tariffs, but GATT destroyed tariffs as an effective barrier to cheap imports; so the quota approach was taken. Is it unfair to tell Japan, "We want to trade with you, but we are unwilling to offer you the entire U. S. textile market?"

2. "Quotas are strongly nationalistic."

America should be nationalistic, for we are the envy of the world. Our economy is unique, and no part of it should be destroyed. Many underprivileged countries are against nationalism on the part of Uncle Sam and in favor of one world, especially if it would mean dividing up Uncle Sam's money.

3. "Quotas are economically unsound, for market limitations force prices up."

This is the most astounding of your arguments, for you refer to an indus-

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Check your drives against the benefits of

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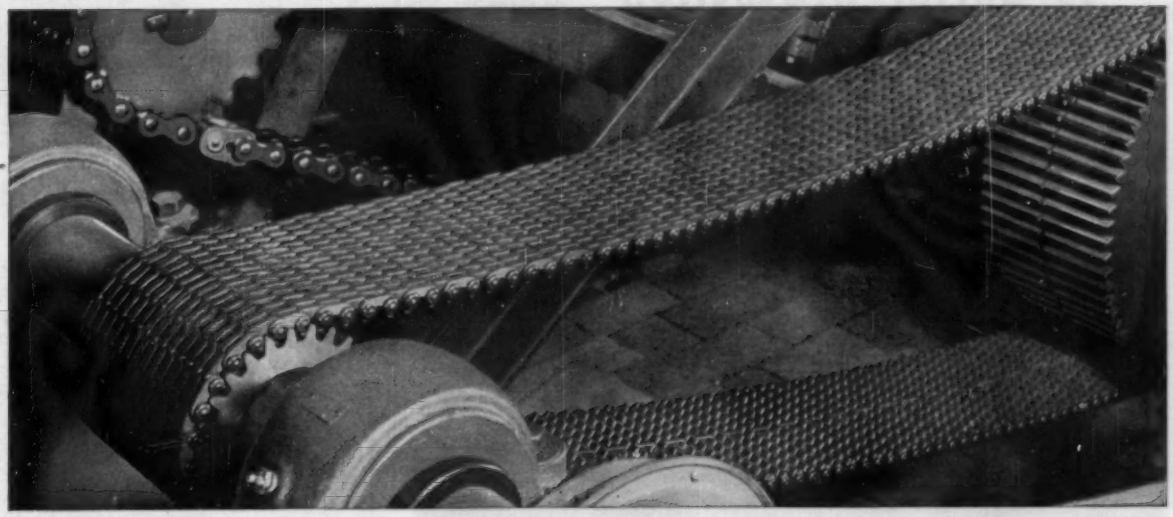
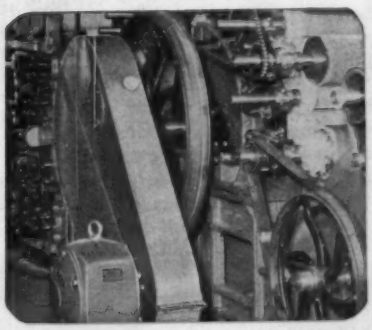
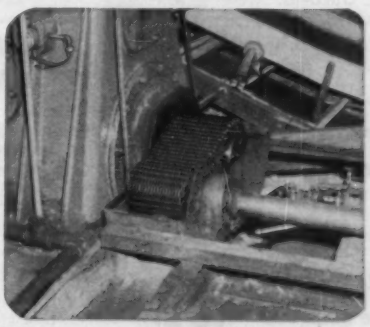


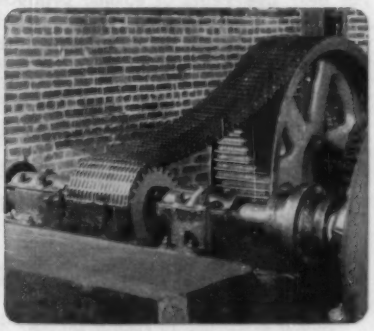
☐ **HIGH SPEED.** Link-Belt silent chain drives are noted for slipless dependability—maintain better than 98% efficiency whether operating over large or small diameter wheels or on long or short centers. For further details on these and more advantages, call your Link-Belt office or authorized distributor.



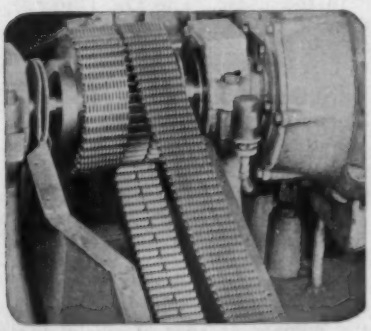
☐ **ADVERSE OPERATING CONDITIONS.** Heat, humidity, cold do not lower Link-Belt silent chain's great efficiency.



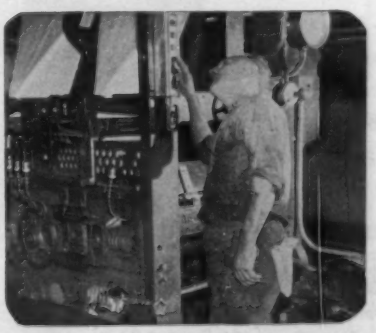
☐ **LARGE OR SMALL HP.** A versatile line, these Link-Belt drives are available from fractional to thousands of hp.



☐ **LARGE RATIOS.** Link-Belt silent chain operates efficiently on extremely short centers at ratios as high as 10-to-1.



☐ **LIMITED SPACE.** Easy to assemble in close quarters, Link-Belt silent chain permits built-in drives, compact housings.



☐ **LONG LIFE.** After 13 years on this newspaper press at speeds up to 4,700 fpm, Link-Belt silent chain is still efficient.

Ask for 88-page Book 2425 — complete data on Link-Belt silent chain drives.

LINK-BELT

14.035

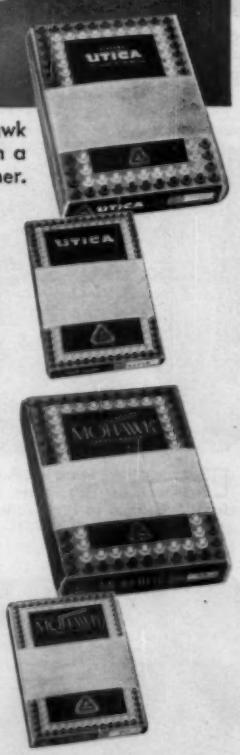
SILVERSTREAK SILENT CHAIN DRIVES

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office: New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World.

For more data, write this page number on Reader-Service card. →

Automatic Packaging saves more...sells more, is better protection for J. P. STEVENS

For over five years of volume production, Utica-Mohawk sheets and pillow cases have been better wrapped on a Hayssen; neat, tight, clean, appealing from mill to customer.



● Your Distributors, your Dealers, your Customers demand better protection and Sales-Appeal! J. P. Stevens, like hundreds of others across the country and around the world have found they can meet these demands at less cost with Hayssen Wrapping.

We can save you money over your present wrapping system, too, and give you added protection and sales appeal.

Let our experienced packaging engineers help you with your packaging problems. WRITE US TODAY!

HAYSSEN

MANUFACTURING COMPANY • Dept. TW-2 • SHEBOYGAN, WIS.

first in Automatic Packaging Since 1910

Albany • Atlanta • Boston • Chicago • Dallas • Denver • Detroit • Houston • Jackson, Miss.
Los Angeles • Minneapolis • New York • Philadelphia • St. Louis • San Francisco • Montreal • Toronto

try known as the most competitive of all industries, one that gives to the consumer products with less profit to the manufacturer than any other.

Obviously you want free trade. We would not object to free trade if it were really free. But when the minimum wage is set in this country 600% higher than the average wage in Japan and our raw material is sold to the Japanese for 6¢ to 8¢ a pound less than the American mill has to pay, it can hardly be called free.

Do you propose that American wages and overhead expenses be lowered, or that those of Japan be raised? That American cotton be reduced in price, or that foreign cotton be pooled in a world loan financed by us?

If we develop cost-cutting methods yet unknown, what will prevent the Japanese from using the same methods? Even when methods are patented the Japanese can copy the patents.

You warned that time was short, that the American textile industry must cut costs by modernizing, that one-fifth of the textile industry is obsolete. The four-fifths part of the industry that is modern can't compete with Japan. If the modern American textile mills could get employees who would work for nothing, we still couldn't compete because of the great difference in costs. Mill profits that could be used in modernizing are being taken in taxes, and some of this money is being used to build up foreign competition.

Quite frankly, quotas or tariffs will be a requirement for the survival of the American textile industry as long as the present conditions exist; and there is nothing in sight to change these conditions.

Ernest Rees, Jr.
Vice President and
General Manager
The Elk Cotton Mills
Fayetteville, Tenn.

HOW GLASS FIBER IS NUMBERED

Dear Editor:

In the article "Tips On Throwing Glass Fiber" [Textile World, Sept., '56, p. 87] a yarn designated as 150-1/3-3.8S is used as an example. It is stated that the number 1 signifies that the producer's yarn is single ply with one turn of Z twist.

Actually, a producer's yarn of that construction would be designated as 150-1/0-1.0Z. The single yarn with the three additional turns would be 150-1/0-4.0Z.

The numerator of the fraction following the yarn number indicates only the number of ends of singles yarn that are twisted together. The number of ends is usually from 1 to 4.

MORE THAN 2½ MILLION SPINDLES NOW EQUIPPED WITH ROBERTS HIGH DRAFT

ROBERTS SPINNING NEWS

PUBLISHED BY ROBERTS COMPANY SANFORD, NORTH CAROLINA

VOL. 12 SANFORD, NORTH CAROLINA NO. 2

MOST BALL BEARINGS USED IN ROBERTS SPINNING FRAMES

The use of ball bearings at many key points of a spinning frame not heretofore found possible has been accomplished in the Roberts M-1 frames.

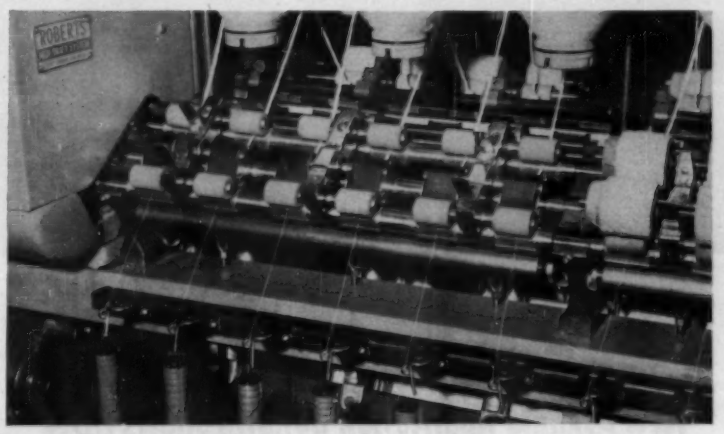
This liberal use of ball bearings results in a spinning frame with smoother performance, greater dependability and freedom from lubrication. The need to replace wearing parts and future maintenance expense is eliminated.

The key points in Roberts Spinning Frames now ball bearing equipped are:

lifting rod rolls
wave shafts
cross shafts
builder motion pivots
crown gear swing arms
complete lay trains
intermediate gears
front roll gears
upright shafts
jack shafts
cylinder bearings
and, of course, in
spindles
tape tension pulleys
top roll suspension system

The long felt desire by practical mill men to apply sealed ball bearings to spinning has been successfully accomplished in the Roberts M-1 Spinning Frames.

ROBERTS TOP ROLL SUSPENSION USES BALL BEARINGS ALL 3 LINES

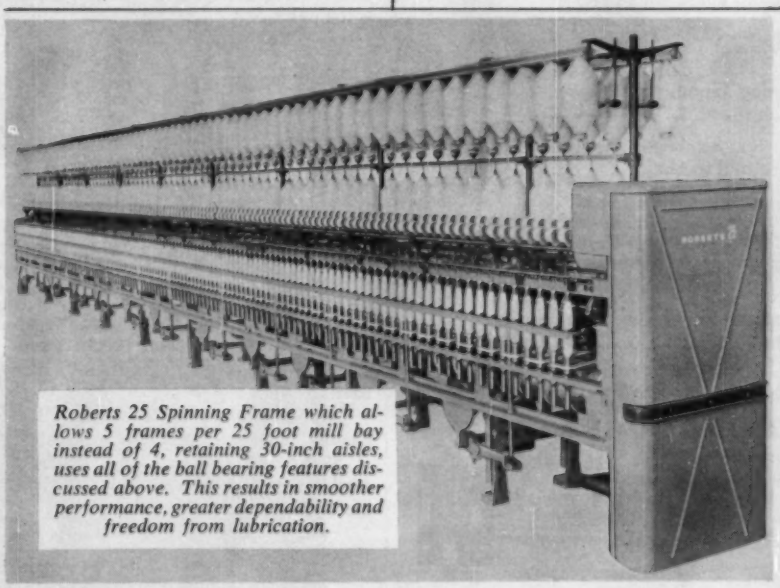


A top roll suspension system which uses double-row ball bearings in front, middle and back lines and incorporates many other important design advantages has been announced by Roberts Company

BALL BEARING SPINDLES FIND WIDE ACCEPTANCE

Since early 1956 when Roberts Ball Bearing Spindles were first introduced, several hundred thousand have been installed in spinning frames.

Mill men report their performance exceptionally dependable, even at the highest operating speeds.



Roberts 25 Spinning Frame which allows 5 frames per 25 foot mill bay instead of 4, retaining 30-inch aisles, uses all of the ball bearing features discussed above. This results in smoother performance, greater dependability and freedom from lubrication.

Adaptable to several drafting systems as well as its own, the Roberts Top Roll Suspension embodies all the following features, many not found in other arrangements:

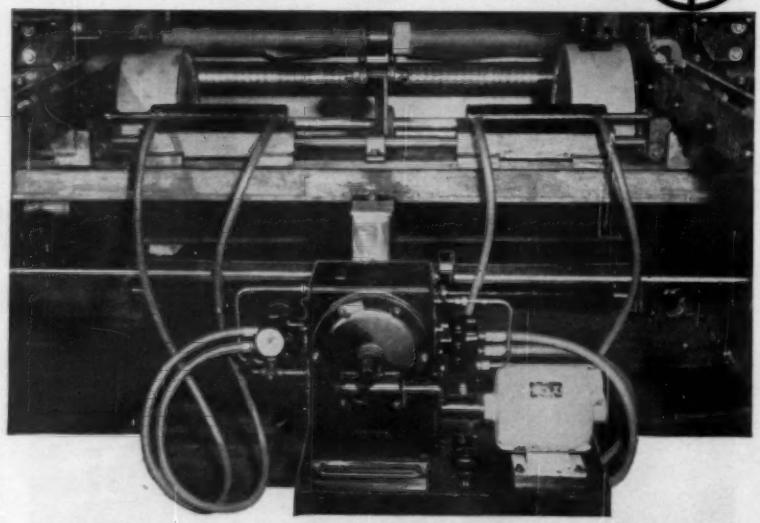
1. Cots are buffed on standard equipment, without attachments.
2. Cots revolve together making lap removal simpler.
3. Full length revolving clearers are used.
4. Front and back rolls are interchangeable making sequence buffing possible.
5. All three lines of rolls have double-row ball bearings.
6. Has controlled self-alignment.
7. Cots have ½" hole diameter.
8. 2-piece labyrinth seal is protected from lint entrance and roll picker damage.
9. Double row bearing raceways are ground directly into ½" shafts.
10. Bearings grease-packed for life.
11. Conventional dead-weighting or new spring weighting optional.

An alternative arrangement also available employs a ball bearing top roll and special suspension on the front line only with Roberts Cap Bars and solid top rolls on middle and back top rolls.

Roberts also continues to offer its No-Oil Cap Bar and Saddle system for all three lines, now installed in more than 2½ million spindles.

Askania Regulator Company NEWS

Automatic Cloth Guides for
TENTER FRAMES, LABEL MARKERS, TUBERS and EXAMINERS



PRODUCE MORE AT LOWER COST!
New Askania Application Bulletin Shows HOW

ASKANIA'S new REGULATOR APPLICATION BULLETIN NO. 22.1 is now off the press and available to the textile industry. It will be furnished upon request to anyone interested in specific details concerning the application of ASKANIA Automatic Cloth Guides to Tenter Frames of all types ...to Tubing and Examining Machines...to Label Marking Machines. It will explain how the Cloth Guide automatically handles any cloth, including flimsy lace, delicate silks, coarse mesh cloth, synthetics, *without contact with the cloth.*

WELL ILLUSTRATED—You'll find the above illustration showing the Askania Automatic Cloth Guide Control applied to a tentering frame typical of the 11 special photos and drawings used to provide the type of information you need to evaluate your own cloth guide potentials.

IMPORTANT FACTS—*For instance, Bulletin No. 22.1 contains the answer to these questions:*

1. How ASKANIA controls assure clipping, pinning closer to the selvage edge.
2. How the controls can be quickly and easily installed on new or existing machines by any competent mill mechanic.
3. How the operator is freed to examine the cloth.
4. Why the controls react to the flimsiest material with instant speed and powerful force on even the heaviest tenter frames.

MODEL SELECTION—Get full information on ASKANIA Cloth Guide Models and how to select the most economical unit for your own use. For your personal copy, write today to Askania Regulator Co., 274 E. Ontario Street, Chicago, Illinois.

ASKANIA REGULATOR COMPANY
"CONTROLS FOR INDUSTRY"
HYDRAULIC, ELECTRONIC CONTROLS & SERVOS, GENERAL SYSTEMS, ENGINEERING & COMPUTER SERVICE, VALVE ACTUATORS & CYLINDERS

A SUBSIDIARY OF GPE

The denominator of the fraction indicates the number of twisted ends that have been plied together to obtain a balanced yarn, which may be two or more. In yarns that have been twisted but not plied, the denominator is zero and the number that follows the fraction indicates the amount of twist in the singles yarn, usually in a Z direction.

In yarns that have been plied, the number that follows the fraction indicates the number of turns in the ply only. There is no actual indication in this number concerning the amount of twist in the singles yarn before plying.

T. F. COSTELLO
Owens-Corning Fiberglas Corp.
Anderson, S. C.

CHANGE OF WEIGHT IS SLIGHT IN COMPRESSED WOOD SHUTTLE

Dear Editor:

We are writing relative to a release that appeared in the Nov., 1956, issue of TEXTILE WORLD dealing with the compressed dogwood shuttle that we produce and market under the trade name Durawood.

In the second paragraph of the article it is stated, "The wood in this Durawood shuttle is compressed to almost twice the density of the original wood." This statement is in error. A shuttle this heavy would be almost impossible to box or control in flight. Actually, the increase in weight contingent with this compression is very slight and will improve running performance in almost all loom applications and lengthen shuttle life.

G. D. McGILL
Southern Products Mgr.
Steel Heddle Mfg. Co.
Southern Div.
Greenville, S. C.

PICKERS PRODUCE 300 LBS. AN HOUR

Dear Editor:

On p. 75 of the December issue, you give the new machine layout in the picker room of Ledbetter Mfg. Co., Rockingham, N. C. I'd like to call a couple of errors to your attention.

You state that each of two Saco-Lowell pickers runs at 600 lbs. per hr. Actually, the two pickers together produce only 600 lbs. an hour—300 lbs. each.

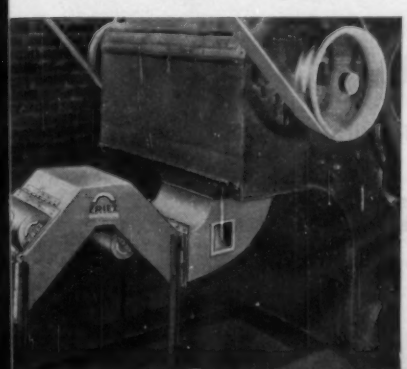
You also showed a picture of a cleaner installed on trial and called it a No. 16 cleaner. The machine really is a Saco-Lowell No. 14 trash ejector.

G. L. C
Greenville, S. C.

OLD IRON PANTS AND THE MAGNET! A lady from yesterday with a metal-ribbed girdle wouldn't be safe next to an Eriez Magnet. She might easily be "hung-up" by the powerful Alnico V action. This idea of herculean power is practically applied in textile processing lines. Magnets remove dangerous tramp iron preventing fires, machinery damage and loss of production in cotton, woolen, rayon and waste mills. *All Eriez Magnets are non-electric, self-contained. They operate without any wires or attachments. Best of all their magnetic power lasts a lifetime. The first cost is the last.*

MAGNETIC IDEAS FROM ERIEZ

TRAMP IRON CAN'T GET OVER THIS HUMP. Eriez Permanent Non-electric Magnetic Humps offer the ideal method of removing dangerous tramp iron from material conveyed in pneumatic lines. The patented Eriez Hump consists of 2 powerful plate magnets in an enclosed sheet-metal housing. The hump design changes the direction of the flowing material, creating a mixing or tumbling action. This directional change of the moving material allows the magnets to catch and hold spark-producing tramp iron. Eriez Magnetic Humps bear the Associated Factory Mutual Stamp of Approval for installation in textile mills, and are heartily endorsed by insurance companies as a means of reducing mill fires caused by tramp iron. Want more information? . . . request Bulletin 563.

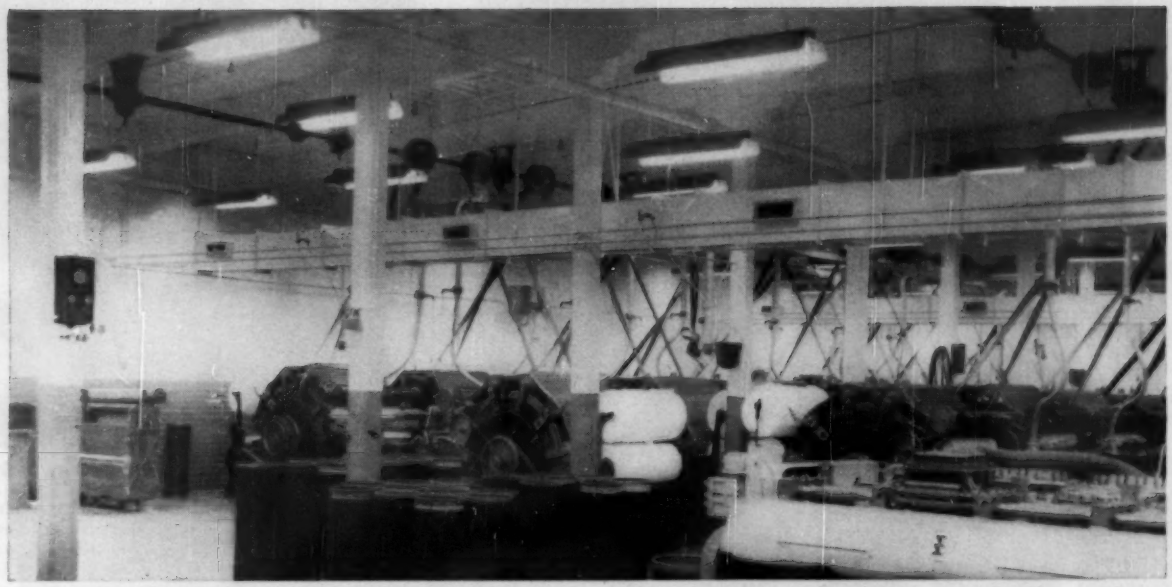


ERIEZ HI-POWR MAGNETIC SEPARATORS

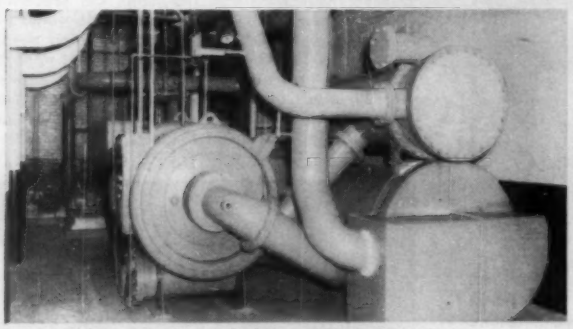
ERIEZ SPIKED-APRON MAGNET SPIKES METAL DAMAGE. Lawrence Garnet Co., Lawrence, Mass., produces garnet specialties of silk and worsted, white worsted and merino. As a precaution against tramp iron damage to the machines, Eriez Spiked-Apron Magnets were installed in the feeder boxes. This step proved highly successful, and the magnets removed large quantities of knitting needles, pieces of spindles, ring travellers, etc., from the processing lines. Previously, any metal such as this would put the machine out of use for days or even weeks, seriously curtailing production. So efficient were the magnets in preventing tramp iron damage, thus saving thousands of dollars, that when the company recently installed new machinery, it would not use it until Eriez Permanent Magnets had been added.

ERIEZ MAGNET IS WATCHDOG FOR THIS FLOCK. Cellusuede Products, Inc., Rockford, Ill., manufacturer of rayon, cotton and hair flock, protects its reputation and costly cutting knives with an Eriez Plate Magnet that pulls dangerous tramp iron from the raw material before it reaches the knife blades. The finished flock, used as a coating material for textiles, paper, metals, etc., and as a reinforcing material to strengthen rubber and plastic compositions, *must* be entirely free of metal contamination. Since installing the magnet, there has been no trace of stray metal, no damage to knives by tramp iron.

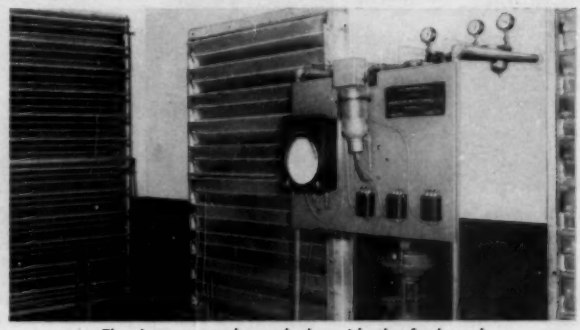
Eriez' free booklet "Magnetic Ideas" can help you. Send for it without obligation. Address: Eriez Manufacturing Company, 101P Magnet Drive, Erie, Pa. Or, on your specific request Eriez' factory-trained field men backed by Eriez' laboratory and engineering know-how will be happy to study your particular problem, make a plant survey and offer helpful "Magnetic Ideas".



Card room at Highland Park Mfg. Co., Mill No. 1, Charlotte, N. C. Ductwork and zone control atomizers are part of Amco's central station system, designed by J. E. Sirrine Company for the entire mill.



Refrigeration is supplied by a 350-ton Trane Centravac unit located in the basement.



The Amco control panel alongside the fresh and recirculated air louvers.

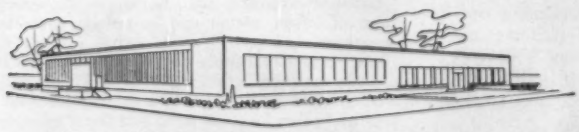
This ECONOMICAL split-system by Amco

provides thoroughly conditioned air, with maximum operating efficiency

Whether your need is for one room, or an entire mill, Amco offers air conditioning to meet your requirements. Amco designs and installs all types of systems — humidification alone; or in combination with cooling, such as in the ductless evaporating cooling system; unit dry-duct systems; or central station systems.

The central station system Amco recently completed at Highland Park Mill is a good case in point. In order to effect savings, it was felt advisable not to install the excess air capacity found in conventional design. Instead, Amco installed a "hand tailored" split system using a smaller central station unit augmented by room atomizers, thus reducing both initial cost and operating cost. This system provides complete control with even greater flexibility of operation. Savings have been substantial.

Amco engineers will be glad to work out a solution to any problem you may have. Next time call on Amco for reliable advice. There is absolutely no obligation.



New Cleveland-Rowan Plant of the American Moistening Company. This modern plant is located at Cleveland, N. C., for the fabrication of duct work and sheet metal products.

AMCO

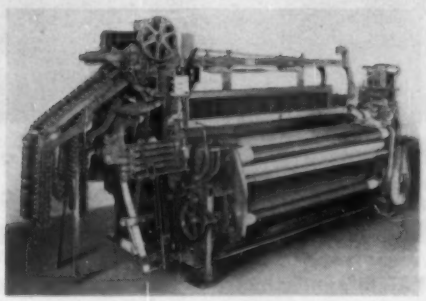
AIR CONDITIONING SYSTEMS

AMERICAN MOISTENING COMPANY, CLEVELAND, N. C. BRANCHES: ATLANTA • BOSTON • CAMDEN • PROVIDENCE • TORONTO

← For more data, write this page number on Reader-Service card.

PLAID NEWS

is GLAD news for everybody



Yes, plaids are back . . . new and stimulating plaids. Just look at the retail ads and you'll see . . . *the lads are going for plaids!*

Here's another of those sudden changes that can catch a weaving mill "in a box" . . . unless that mill is ready and equipped with C&K's W-3 or W-3A fancy automatic box looms and the exclusive Select-A-Pic feature that makes it possible to weave automatically many pick-and-pick fabrics which would have to be woven *non-automatically* on any other type of weaving machinery . . . except C&K's New *PAPA* Loom . . . *about which you will soon hear plenty!*

Make no mistake about it . . . this is a fancy box-loom fabric market . . . and getting more so every day. So if you need the looms to go along with the boom . . . see C&K today!

CROMPTON & KNOWLES *Corporation*

WORCESTER 1, MASSACHUSETTS, U. S. A.

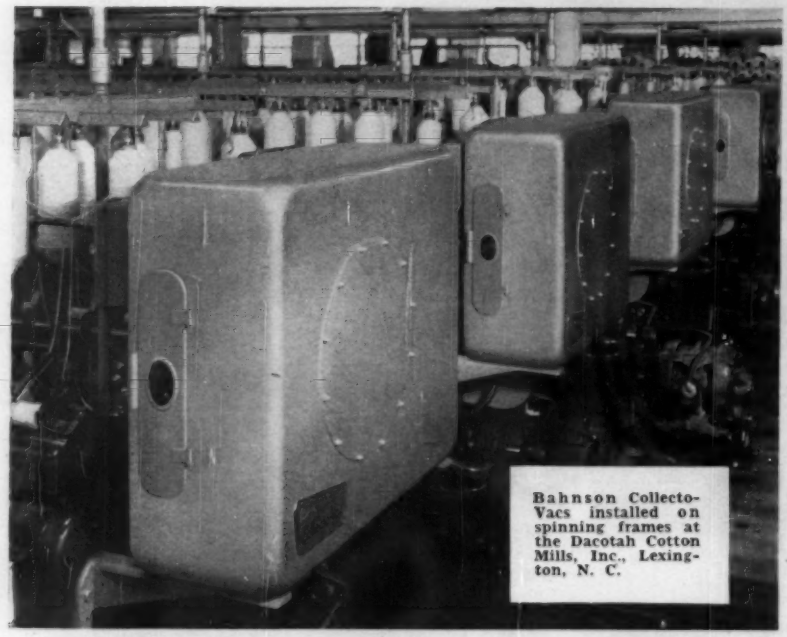
CROMPTON & KNOWLES CORPORATION C&K WORCESTER, MASS. U.S.A.

CHARLOTTE, N. C. • PHILADELPHIA, PA. • ALLENTOWN, PA. Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I. • Crompton & Knowles of Canada Ltd., Montreal, Quebec

For more data, write this page number on Reader-Service card. →

new Bahnson Collecto-Vac

FOR COLLECTING LINT AND BROKEN ENDS



Bahnson Collecto-Vacs installed on spinning frames at the Dacotah Cotton Mills, Inc., Lexington, N. C.

Top textile firms find greater performance advantages with the efficient Bahnson Collecto-Vac

A PARTIAL LIST OF USERS

M. LOWENSTEIN & SONS, INC.
GRANITEVILLE MILLS
WALTON COTTON MILLS
NEW BRAUNFELS TEXTILE MILLS
BIBB MANUFACTURING COMPANY
SPRAY COTTON MILLS
J. M. ODELL MANUFACTURING CO.
KENDALL MILLS
JOANNA COTTON MILLS COMPANY
CLIFTON MANUFACTURING COMPANY
DACOTAH COTTON MILLS, INC.
MT. VERNON-WOODBERRY MILLS
BURLINGTON INDUSTRIES, INC.
ERWIN MILLS, INC.
JOHNSTON MANUFACTURING CO.
DAN RIVER MILLS
COWIKEE MILLS, INC.
COMPANIA COLOMBIANA DE TEJIDOS
ABBOTT WORSTED MILLS

Bahnson Collecto-Vac

Mill-proved Collecto-Vac features offer you more for your investment as standard equipment

IN MATERIALS: Attractive anodized aluminum flutes — *no warpage or cracking*. Rugged 14 gauge stamped steel collection box.

IN DESIGN: More uniform suction pressure. Scroll type fan discharge to *disperse* motor alley heat, not *concentrate* it.

Belt driven fan for flexibility, or internal motor for economy. (A scroll type fan is used with both designs.)

IN PERFORMANCE: Greater cleanliness and collection of flying lint. Positive end collection the length of the frame. Lower horsepower at same CFM and suction pressure.

FREE BULLETIN

Write us today for our free booklet containing detailed information on the new Bahnson Collecto-Vac.

Bahnson COMPANY
WINSTON-SALEM, N. C.

AIR CONDITIONING / CLEANING
VACUUM COLLECTION

91 of the top 100

Of the nation's 100 top textile manufacturing firms, 91 are users of Bahnson equipment!

← For more data, write this page number on Reader-Service card.

FACTS about NEW DEPARTURE BALL BEARINGS

BALL BEARING SPINDLES PRODUCE CLEANER YARN-FASTER!

New Departure self-enclosed spindle bearings are grease-lubricated—operate for as long as five years without relubrication. They eliminate a common cause of oil mist—produce cleaner, better yarn.

Also highly important, these smooth-running, low-friction ball bearings permit higher speeds, give faster yarn production—longer tape life. They are mounted in oil-resistant, synthetic rubber housing rings to reduce vibration from any load unbalance.

Write for full information on New Departure ball bearings for spindles and other textile applications. Join other leading manufacturers who have proved the economy and performance advantages of New Departure ball bearings in their textile equipment. New Departure, Division of General Motors, Bristol, Connecticut.

BALL BEARINGS MAKE GOOD PRODUCTS BETTER

SEE "WIDE WIDE WORLD" SUNDAYS—NBC-TV

Hartford Machine Screw Co. split-base spindles save on maintenance time—give quick accessibility to spindle parts.

NEW DEPARTURE
BALL BEARINGS

GM GENERAL MOTORS

NOTHING ROLLS LIKE A BALL

For more data, write this page number on Reader-Service card. →

Textile Engineering
BLEACHING & FINISHING

Continuous processing in all phases of textile finishing has already proved its ability to cut production costs, increase production and overall profit. Many leaders in the bleaching and finishing field have already tooled up to engage in this faster, more profitable form of production. On hand, to blueprint the modernization, the production layout, and the new buildings that house many of the nation's most modern operations, have been the skilled planners in the Textile Engineering Division of Robert and Company Associates. An engineering survey of your existing operations will enable you to better judge your expansion and profit potential, as our more than 40 years experience in all phases of textile engineering has helped others.

ROBERT AND COMPANY ASSOCIATES
Textile Engineering Division
ATLANTA

TEXTILE BUSINESS

Textile World

FEBRUARY • 1957

THIS MONTH'S HIGHLIGHTS

Japan Sets Import Quotas

Japan's Velveteen Mills Want Joint U. S. Operation

Botany Mills— A Loser Wins Again

Textile Stocks— Good for Long-Term Gains

Union's Drive Bogs Down

Cut-Rate Cotton For Textile Exports

Dyers and Finishers Boost Their Prices

Hand-to-Mouth Buying To Continue Indefinitely

Japanese Import Quotas— The Best of a Bad Bargain

The Japanese government on Jan. 16 finally announced its voluntary quota system for cotton-textile exports to the United States. Six days later President Eisenhower rejected the "escape clause" recommendation of the Tariff Commission that velveteen tariffs be raised. There were few surprises in the developments.

Important highlights of the quota plan are—

- Exports of cotton goods to the U. S. will not exceed 235-million square yards a year.
- Cotton cloth will not exceed 113-million square yards.
- Velveteen exports will be limited to 2.5-million square yards.
- Gingham exports will not exceed 35-million square yards.
- Combed-yarn fabrics will not exceed 26-million square yards.
- The plan—except as it applies to velveteen, gingham, and combed-yarn fabrics—will be effective for a period of five years, 1957-1961, but may be reviewed yearly. The limits on velveteen, gingham, and combed-yarn fabrics are set for only two years, 1957 and 1958, and will be reviewed at the end of that term.

Although the quota system was worked out in consultation with U. S. government officials, it is a unilateral, voluntary action of the Japanese government and hence does not have the binding status of an executive agreement or a treaty. U. S. officials, however, are satisfied that the Japanese will live up to their commitments under the program.

On the day the system was announced, the board of directors of the American Cotton Manufacturers Institute met in Charlotte to study details of the plan. After the meeting, ACMI issued a statement to the effect that **the plan "is basically sound and workable" and "deserves a fair trial."**

Months of tough bargaining preceded the announcement of the quota system. The main sticking point was a different interpretation of what the 1955 level of Japanese cotton-textile exports was. The Americans set the level on the basis of U. S. imports of 220-million square yards whereas the Japanese calculated it on the basis of their exports, which were placed at 270-million square yards.

Since Japanese exports skyrocketed in the final months of the year and there was roughly a two-months' lag before these exports showed up in U. S. import figures, the Japanese base was significantly higher than that of the U. S. negotiators. The result was a compromise between the two levels.

Probably nobody is happy about the compromise that was finally worked out. U. S. textile men certainly would have liked to see lower quotas imposed and will be uneasy about how well this sort of unilateral set of rules will be enforced.

The Japanese, for their part, are fearful that the quota move will set a precedent for demands for similar curbs from other countries to which they export. They also insist that it's basically unfair to be compelled to hold their cotton-textile exports to this country to roughly $60-million worth per year when Japan is buying roughly $150-million worth of raw cotton from us every year and when Japanese cotton textiles across the board account for less than 2% of U. S. consumption.

Many U. S. officials also are fearful of the effects of the agreement on the political and economic strength of Japan—still con-

sidered absolutely essential to holding the line against Communism in the Far East. If the move leads to pressure from other nations to limit imports from Japan, the long-run effect on Japanese trade prospects could be much more serious than that likely to result from the present agreement itself.

U. S. attempts to curb Japanese imports have had serious political repercussions in Japan already, strengthening the hands of anti-Yankee socialist and neutralist groups, as well as of businessmen anxious to expand trade with the Soviet bloc. Beyond that, since the export controls will have to be applied by the big Japanese manufacturers and exporters working together, the result is bound to be a reinforcement of the already alarming trend toward recartelization of the Japanese economy. Long run, this weakening of economic democracy could dim the chances for survival of political democracy in Japan.

Many U. S. officials also feel that the fact that the U. S. government has been obliged to plead for trade restrictions will weaken the U. S. moral position in pushing for a general freeing of world trade and of bars to U. S. exports within the general agreement on tariffs and trade (GATT).

But the plain fact is that without some such action by the Japanese, they were faced with the probability that Congress would have enacted import quotas on Japanese textiles that would have cut their exports to this country to perhaps as little as $30-million worth a year. Congressional imposition of import quotas also would have reversed the philosophy of the reciprocal-trade program under which the Administration has handled trade and tariff policy as Congress' agent and opened the door to a flood of legislated quotas that might have hit a wide range of Japanese exports to this country.

The passage of state laws in the South designed to encourage a boycott of Japanese goods in the stores not only deeply hurt Japanese pride but was a clear warning to them that they had to rein in their imports or face a virtual shut-out in the American market.

If the Japanese export-quota system succeeds in forestalling congressional curbs on imports from Japan, the Japanese will feel that they have made the best of a bad bargain. After all, the quotas they have imposed, while permitting less exports than they probably could have achieved under free-market conditions, still permit substantial export business. And there even are some indications that the Japanese may have been somewhere near the top of their export potential to this country in many lines of cotton textiles. In fact, their gingham sales actually have dropped off in response to the general contraction of the U. S. gingham market under the impact of style changes.

[For an evaluation of Japan's textile industry, see "What's Happening to Japan's Textile Industry," p. 108.]

U. S. Negotiators

Chief negotiators for U. S. cotton mills were:

Robert T. Stevens, president, J. P. Stevens & Co., Inc.

Seabury Stanton, chmn. of the board, Berkshire Hathaway, Inc.

F. E. Grier, president, Abney Mills; chmn. of the board, Erwin Mills, Inc.; and president of ACMI

J. Craig Smith, president, Avondale Mills

R. H. Jewell, vice president, Crystal Springs Bleachery

C. A. Cannon, president, Cannon Mills Co.

Hosiery Pricing Changing Pattern?

January price changes by hosiery mills may be setting a new price pattern.

To absorb a 5% increase in the price of nylon yarn announced by Du Pont and other fiber producers, several mills making women's hosiery raised their wholesale prices on unbranded lines.

Simultaneously, the same mills left prices of branded lines unchanged, while several other mills cut prices on brand names.

If the January changes set a general pricing pattern, the gap between branded and unbranded lines will be significantly narrowed.

Viscose Starts Delivery of Solution-Dyed Carpet Rayon

Deliveries of solution-dyed carpet rayon under the tradename Colorspun were started last month by American Viscose Corp.

The staple is available in 15 den. and in colors reported to be suitable for blending and for tweed combinations.

New Deniers of Fortisan-36 To Find Use as Reinforcement

Two new deniers, 270 and 300, of Fortisan-36 are expected by Celanese Corp. to find extensive application in such uses as reinforcement for packaging tapes and papers, scrims for lightweight vinyl laminates, and reinforcement for ducks.

Textron Uses $13-Million Of Its Tax-Loss Credits

Royal Little, chairman of the board of Textron, Inc., reports that Textron has charged off $13-million worth of profits against the tax-loss credits it had from operation of American Woolen Co. and Robbins Mills, Inc., starting up the new woolen mill at Barnwell, S. C., and other nonrecurring losses.

Japan's Velveteen Mills Want Joint U.S. Operation

HAMAMATSU, JAPAN—Japanese velveteen manufacturers, struggling to find a way out of the crisis facing them as a result of the Japanese-American agreement on textile-export restrictions, may soon propose that American and Japanese velveteen makers plan joint production of this disputed item.

Under a plan tentatively outlined by textile leaders of Hamamatsu, the heart of Japan's velveteen production, U. S. velveteen firms would send cotton to Japan for spinning, weaving, and cutting and the Japanese mills would return the gray goods to U. S. mills for dyeing and finishing. This arrangement would apply only to **velveteen above and beyond that exported to the U. S. under the new agreement (2.5-million square yards).**

"American machine-cutting is more costly and not very much more efficient than our hand-cutting," one velveteen manufacturer told TEXTILE WORLD. "Thus both parties would benefit from this plan."

The proposal has been informally endorsed by a number of leading velveteen makers here who are reaching for any straw that might save them from drowning in the wake of the bilateral agreement, which strikes hardest this segment of Japan's textile economy.

"It is no more than just dissatisfaction that we feel," said one executive. "We simply can't understand how America can let two or three million yards of velveteen stand in the way of U. S.-Japanese friendship—especially in view of the fact that we voluntarily restricted our exports to America sometime ago."

To put their feelings in more concrete terms, velveteen makers, if they don't get American concessions, are thinking of: (1) pressing for a switch of raw-cotton imports, which amount to about 60,000 bales from the U. S., to other countries; (2) getting Communist China to absorb the velveteen production that the U. S. won't buy.

Anger is widespread among Japanese textile interests. But it is especially apparent in Hamamatsu and the surrounding area, which produces 85% of Japan's velveteen.

Since April, when the Japanese first imposed voluntary quotas on exports to the U. S., only about one-third of the region's 700 velveteen cutters have survived and only 3,000 out of 10,000 cutting employees still have jobs. **The new restrictions are expected to reduce the number of jobs still further.**

In the town of Fukude, where 80% of the population of 20,000 is dependent on the velveteen mills, the situation is close to desperate. The average firm has been dependent on U. S. orders for about one-third of its business, some mills for more than half.

A typical velveteen maker is Masaya Yokokura, a cutter who maintains a cutting plant in his barn-like home. Several months ago, he had 20 workers cutting on 14 tables. Today, he can afford to keep only two workers and three tables operating. Production has fallen from 300 yds. daily—half of which went to the U. S.—to 30 yds., none of which goes to America. His domestic business has suffered as a result of a poor credit rating in the wake of the original export restrictions.

Cut-Rate Cotton for Mill Exports

Surplus cotton may be sold to U. S. mills at cut-rate prices for export textiles.

Sen. Margaret Chase Smith (Rep., Me.) introduced bill S. 314 into the senate to allow the Secretary of Agriculture to sell at least 750,000 bales of Commodity Credit Corp. cotton to mills at prices that will permit them to regain their 1947-52 level of exports.

The bill calls for the first sales to be completed by June 30, 1958, and the program to continue for the following four years.

Textured Acetate Carpets Shown by Celanese

Carpets from a special heat-set acetate said to retain texture and frieze were shown early last month in Chicago by Celanese Corp.

Carpets made of the fiber are reported to resist crushing, insects, and soilage.

Darlan Fiber Goes Into Sweaters

Sweaters made of B. F. Goodrich's new fiber Darlan are coming. The first ones will be made on coarse-gauge hand-knitting frames by Benjamin Moseley Co.

So far, Darlan's chief use has been in deep-pile fabrics.

Woolen-Worsted Union Changes Negotiating Strategy

The AFL-CIO Textile Workers Union of America announced that it would abandon its practice of "industry-wide" negotiation in the woolen and worsted field.

William Pollock, union president, said that union contracts in the future will be negotiated with individual companies.

The reason for the change, Pollock said, is that since American Woolen Co. was liquidated no single woolen or worsted company is big enough to set a pattern.

Pollock expects a flurry of requests for renegotiation of contracts.

TEXTILE BUSINESS

USDA To Increase World Cotton Consumption

The U. S. Dept. of Agriculture early last month announced a program aimed at increasing the consumption of cotton goods in France, Spain, and Japan.

The National Cotton Council's new division, Cotton Council International, will carry out the program. Techniques used will parallel those developed and used so successfully by the Council in the U. S.: advertising, exhibits, fashion shows, etc.

A similar program in Japan last year is believed to be largely responsible for a sharp increase in domestic sales of cotton goods, and a current program in West Germany is making significant progress.

The need for increasing not only cotton but all-fibers consumption is highlighted by figures released by the United Nations Food & Agricultural Organization in Rome, Italy. In 1954, fiber consumption in kilos per person in different world areas was:

North America	15.50
Australia and New Zealand	8.25
Western Europe	7.63
Eastern Europe and Russia	5.81
Latin America	3.95
Africa	1.99
Asia	1.98

Berkshire Hathaway Curtails

Production was curtailed in 9 of 13 Berkshire Hathaway plants early last month.

L. V. Dodge, vice president, said the mills would run at 60 to 80% capacity, compared with about 90% that they have been running. Curtailment is expected to continue until market conditions improve.

The principal products of the nine mills are combed-cotton fabrics.

Kayser Stock Sold

A. Louis Oresman, a director of Julius Kayser & Co., reported the sale of 15,000 shares of Kayser common stock in December. His direct holdings were reduced to 1,130 shares.

Botany Mills— A Loser Wins Again

BOTANY'S A. M. SONNABEND. Tax-loss credits building an empire?

Last month Botany Mills, Inc., took another giant step on its comeback trail.

For a substantial cash down payment and an arrangement to pay the balance of about $8-million out of future earnings, Botany took possession of two sales firms and six plants of Smitherman Cotton Mills.

The package amounts to 60,000 spinning spindles, 1500 looms, and two dyeing, printing, and finishing plants, with annual sales of about $16-million.

Renamed Calvine Mills, Inc., the group of cotton-goods mills becomes the seventh corporation of the growing Botany empire. Its cotton apparel and household fabrics take their place alongside such diverse Botany products as sun-tan lotion, synthetic fur-like fabrics, luggage, jewelry, and retail clothing.

Once a bright name in woolen-goods manufacturing, Botany ran into trouble in the late 1940's and early 1950's. It approached bottom from 1952 to 1955, with the loss of $18-million in four years.

That's when management took the bull by the horns and set Botany on its present course of diversification.

Chief surgeon in cutting away the dead wood of the old Botany and the guiding hand of the present upsurge is A. M. Sonnabend, president and chairman of the board since 1954.

Sonnabend is not a textile man. Before taking over at Botany, his business interests included ownership of a chain of hotels that incorporates New York's Plaza and Ritz-Tower, Boston's Somerset, and Chicago's Edgewater Beach; a directorship of Columbia Pictures; and the presidency of the Child's restaurant chain.

One of Sonnabend's first moves at Botany was the proposal to the stockholders of a revision of the entire corporate structure.

For the old 6% first-preferred stock, Sonnabend offered a 5% issue convertible to common stock at a 1-for-4 ratio. For the old 5% second preferred, Sonnabend proposed a 4% certificate convertible to common stock on a 1-for-2½ basis. Stockholders went along.

Botany Mills, Inc., capitalization now stands like this:

103,746 shares of 5% 1st preferred
172,635 shares of 4% 2nd preferred
1,033,096 shares of common

Coincident with the reorganization, Sonnabend shut down Botany's manufacturing operation and began to execute Step Two in his program.

Taking stock of assets other than land, buildings, and money in the bank, Sonnabend's management team decided to capitalize on the name Botany, which had been a household word for over 60 years and was symbolic of quality merchandise.

The name was already licensed for use in the manufacture of a famous line of men's suits and coats. The licensing idea was extended to leaders in specialized fields so that now the Botany name also appears in connection with cosmetics, boys' clothing, ties, slacks, shirts, women's dress goods, women's knitted garments, and hand-knitting yarns.

Step Three was directed at realizing as much as possible from the old plant and machinery.

At present, 80% of the building is rented to textile and other concerns. Old and unadaptable structures were demolished, useless machinery sold, and improvements made where necessary to fit the new tenants' needs.

Step Four involved diversification and utilization of tax credits.

Figuring Botany's woolen business as a dead duck, and with $18,000,000 worth of tax-loss credits that had to be put to work before the time limit ran out (losses in any one year are good for tax-loss credits for five years), Sonnabend got busy. The answer obviously was to buy small, growing companies that were sound and making money.

His first acquisition, in June, 1955, was the Gurney group of six cotton mills, five in North Carolina and one in Alabama. The mills produce yarn, thread, and cotton piece goods and have sales of approximately $20-million (1955). Earnings of the group averaged over $1-million net annually for the last 10 years.

The acquisition satisfies Sonnabend on three counts: the mills are in good physical condition, their products are good, and they make money. The group is carried on the books as Botany Cottons, Inc., with Robert Gurney president and chief executive officer of the company.

Next, Botany acquired Glenoit Mills, Inc., of Jonesville, Wis., in July, 1956. Producers of fur-like fabrics under the name Glenara, this company has its output sold well ahead and showed a profit in excess of $500,000 last year.

Next, Sonnabend left textiles for cosmetics.

Rolley, Inc., is a San Francisco firm that makes cosmetics and has had great success with a sun-tan lotion called "Sun & Ski." Primarily a West Coast concern, Rolley is now spreading across the country.

The pattern of good management, growth potential, and profits is repeated here. Botany expects to reap another $500,000 profit annually to apply against its tax-loss credits.

In July, 1956, Botany added the Baltimore Luggage Co. as a subsidiary. This concern was a family affair that had grown steadily during its 35 years' existence to a prominent place in the luggage-manufacturing field. Its plant is modern and its merchandising methods up to date. In 1956, it netted about $500,000. Its present staff and policies are expected to remain unchanged under the new ownership.

An earlier preliminary agreement with Markson Bros., Inc., chain retailers of men's clothes, has now been completed; and Markson has become a wholly owned subsidiary of Botany.

Markson is a 50-year-old concern with over 50 stores in the

Men's Fall Worsteds Show Sales, Price Improvement

J. P. Stevens & Co. reports 1957 fall preference in worsted fabrics for men's wear leaning toward conservative fabric styling.

With sales running ahead of last year and prices 10 to 20¢ a yard better, Stevens is having a good season on these fabrics:

A three-harness piece-dyed fancy worsted weighing 11½ to 12 oz. per yd., priced at $3.10

A four-harness piece-dyed fancy worsted weighing 12 to 12½ oz. per yd., priced at $3.10

A 20% silk-80% worsted piece-dyed tweed-effect fabric weighing 11½ oz., priced at $3.37½

A three-harness mix-dyed fabric in 50 patterns weighing 11½ to 12 oz. a yd., priced at $3.65, with pick-and-pick styles priced at $3.80

Dyers and Finishers Boost Their Prices

An 18% increase in the price of dyestuffs on Jan. 1 has increased the cost of dyeing and finishing. As a result, companies doing commission work have increased their prices.

Among the companies announcing increases are Rock Hill Printing & Finishing Co. (about 10%), Indian Orchard Finishing Co. (5% on pastels, 7% on medium shades, and 10% on dark shades), and Modern Central Dyers & Finishers (½ to 1½¢ a yard).

Reeves Bros. plans a ½ to 2½¢-per-yard increase soon.

Other companies hope to pass on at least part of the added costs of dyestuffs but are not ready to make firm announcements.

Collins & Aikman Loses Money, Sells Mill

Collins & Aikman trimmed its sails a little early last month by the sale of its weaving mill and men's-wear business at Bristol, R. I., to Cobar Industries. At the time of the sale, negotiations were still under way on the sale of its women's-wear operation.

No price was quoted on the sale;

West and New England. It features medium- and low-priced men's wear in open-rack stores located on main highways and thoroughfares.

On annual sales of $15-million, Markson nets approximately $1,500,000. **A large expansion program is contemplated.**

Purchase No. 6 was the jewel manufacturer and distributor, Jos. H. Meyer Bros., for approximately $4-million. Meyer makes and sells the internationally famous Richelieu pearls and last year originated the highly successful Poppit necklaces. Annual sales of this new Botany subsidiary run about $5-million, and a net profit of about $500,000 is expected.

Sonnabend's strategy in bringing these companies under Botany's corporate wing is keyed to diversification as well as taking advantage of the tax-loss credits.

The entire program is made possible by the fact that all the money the subsidiaries make is tax free, up to the amount of the tax-loss credits and within the time limits specified. Botany is applying the majority of earnings toward paying off balances owed on the purchase price of the companies.

While tax advantages strongly influence Sonnabend's purchases, they also influence the sellers of the properties. The seller pays only a 25% capital-gains tax on money he receives for the sale of his company, whereas he would pay at least 50% on the same money if it came under the head of earnings.

Where will Sonnabend and Botany land next?

If Sonnabend knows, he's not telling too much. The only deal now cooking that he mentions is an oil-supply business currently netting $1-million. But the $18-million tax credit can stand a few more purchases, and profits for a change is strong tonic to long-hungry Botany stockholders.

Prospects now are for a tidy $4-million or better in the black for 1957. It's not likely that stockholders will lower the boom at this stage of the empire-building.

Textile Stocks— Good for Long-Term Gains

Since 1951, textile stocks have taken a back seat in the bullish stock-market surge that set almost everybody from gate watchmen to mill presidents to talking about "my portfolio."

With few exceptions, textile stocks are now well under their top 1951 prices; but a majority are above their 1954 lows.

With the early-1957 general stock market more or less marking time and expert opinion divided as to whether the big move in 1957 will be up or down, most responsible analysts seem to think well of textile issues for **current good dividend yield and good to excellent long-term appreciation.**

In its last analysis of textile issues, **The Value Line** stated, "Most of the textile stocks under review provide current yields well above the average 5.2% return presently provided by all dividend-paying stocks."

For the 10 textile stocks regularly reviewed by **The Value Line,** the estimated current dividend yield is 6.8%. And the average actual dividend for the last 10 years has been 6.1%.

Appreciation potential for the 10 stocks in the 1959-61 period is 59%.

but earlier, Ellis Leach, Collins & Aikman president, expressed the hope that liquidation of the entire Bristol unit would not entail more than a 20% loss of the $5-million investment.

The reason given for disposing of the Bristol division was that it was losing money and could not return a profit "reasonably soon."

For the nine months ended Nov. 24, 1956, Collins & Aikman Corp. reported a net loss of $539,339, of which more than $466,000 or about 86%, was sustained by the Bristol operation.

The 1956 loss of the company compared with a profit in the same nine months of 1955 of $766,000, or $1.37 per share of common stock, on sales of $38,942,000. Sales in the 1956 nine-months period dropped to $32,-044,000.

Losses sustained by the company on its operations besides the Bristol division were caused by: (a) reduced sales of automobile fabrics resulting from the cutback in auto production, and (b) nonrecurring expenses involved in moving its Philadelphia dyeing and finishing operations to Albemarle, N. C.

The Bristol division will continue operations under the name of Bristol Worsted Co., Div. of Cobar Industries, Theodore Birnbaum, president of Cobar, said.

Mills Bid for Socks

Eleven knitting mills entered bids on 2,020,620 pairs of men's wool socks with the Philadelphia Quartermaster Depot early last month.

The mills were:

McAllester Hosiery Mill, Chattanooga, Tenn.

Alden Mills, Meridan, Miss.

Golden City Hosiery Mills, Villa Rica, Ga.

Damascus Hosiery Mills, Inc., Damascus, Va.

Haltom Hosiery Mills, Inc., High Point, N. C.

Lynchburg Hosiery Mills, Lynchburg, Va.

Chester H. Roth Co., New York

Ellis Hosiery Co., Philadelphia

Victor Hosiery Branch, Greencastle, Pa.

Victor Hosiery Corp., Hagerstown, Md.

Superbilt Hosiery, Inc., New York

How Companies Made Out

Company	Sales ($-million)		Earnings per share ($)		Dividends ($)	
	1955	1956	1955	1956	1955	1956
American Viscose	259.4	238	4.66	2.85	2.00	2.00
Burlington	515.2	636	1.83	1.63	.76	1.00
Cannon	193.7	200	4.86	5.30	3.00	3.00
Celanese	177.5	185	1.81	1.30	.50	.625
Cluett, Peabody	87.4	110	4.09	4.80	2.50	2.75
Collins & Aikman	51.1	44	1.76	.10	.15	.60
Industrial Rayon	83.7	60	5.77	2.75	3.00	3.00
M. Lowenstein	326.9	...	3.93	2.50	1.23	1.50
Manhattan Shirt	31.7	34	2.05	2.17	.93	1.15
Pepperell	84.7	98	3.88	4.70	3.75	4.00

Two long-term trends working in favor of textile stocks are (1) growth of population, with an increasing demand for textile products and (2) the elimination of excess productive capacity, which **tends to stabilize production, prices, and profits.**

On the basis of these trends and the positions of the companies, **The Value Line** says that "particularly attractive appreciation potentialities into the 1959-61 period" are provided by:

Company	Gain
American Viscose	97(%)
Burlington Industries	69
Celanese	87
Collins & Aikman	60
Industrial Rayon	97

Somewhat less attractive but with good appreciation potential are:

Company	Gain
Cannon Mills	31(%)
Cluett, Peabody	52
M. Lowenstein	50
Manhattan Shirt	22
Pepperell	48

For 1957, The Value Line anticipates that textile profits will "permit maintenance of current dividend rates in most cases, but increases in payments to stockholders will not be generally forthcoming."

Union's Drive Bogs Down

The AFL-CIO's Southern textile organizing drive is moving at a snail's pace with no big break-through in sight.

That's the estimate of AFL-CIO organizers themselves who, a year after the merger of the two giant union federations, report that the campaign to sign up new members in 13 Southern states has produced little results. A few individual plants have been signed up by the two textile unions; but the biggest targets —Burlington, Pepperell, and Cannon—**have successfully resisted all union overtures.**

In synthetics and apparel, the outlook is somewhat brighter from the union point of view. However, the total number of organized cotton-rayon workers remains at about 35,000 out of a total of 420,000 cotton-rayon workers in the South, as it has for some time.

AFL-CIO plans to continue its campaign in the states running

Mothproof Rugs Coming

Mill-applied mothproofing is likely to become an important sales factor in rugs and carpets, a survey of carpet buyers reported by C. H. Mahnken, Geigy Chemical Corp., indicates.

The survey covered 116 carpet buyers in 46 major U. S. market areas. Results show that 60% of the buyers consider mothproofing important to their customers and that 72% of the buyers have requests from customers that the carpets they buy be mothproofed before delivery.

Nearly all the buyers think mill-applied mothproofing would give them a strong selling point.

Business Failures Rise In Textile-Goods Stores

Business failures among dry-goods and apparel and accessories stores increased 33% in 1956 over 1955, Dun & Bradstreet reports.

Roughest going was experienced by children's- and infant's-wear stores, in which failures increased 53%. In other classifications, failures increased as follows:

Women's and misses' ready-to-wear stores, up 46%

Dry-goods and general-merchandise stores, up 26%

Men's and boy's clothing stores, up 22%

Men's and boy's furnishings stores, up 20%

Hand-to-Mouth Buying To Continue Indefinitely

Textile-goods wholesalers and retailers have no intention of financing big—or even the historic "normal"—inventories. Therefore mills will continue indefinitely to be plagued by the necessity for building unwanted inventories themselves.

These sentiments against large inventories were freely expressed last month at the annual convention of the National Wholesale Dry Goods Assn. at New York's Statler hotel and by retail buyers trooping to the New York market.

The general feeling is that it's

better to miss a few sales after a complete inventory of an item has been disposed of than to be at the mercy of customers by being loaded with inventory that has to go at whatever it will bring.

"Especially," both wholesalers and retailers add, "when there's no chance whatever of real shortages developing—like now."

The trend to stock only 30 to 60 days' inventories is being speeded by the increasing interest rate on borrowed capital. The more it costs to tie up money in stock, merchants say, the greater the risk of loss from being overstocked and from cut-rate disposal of goods.

It is likely that mills that have been deploring hand-to-mouth buying since the stockpiling at the time of Korea will see the time between hand and mouth shorten instead of lengthen as the pinch on money tightens.

Home Sewing Increases But Cloth Sales Lag

Sales of sewing machines steadily increase, but sales of piece goods in department stores steadily decrease, Charles Bruder, vice president, Singer Sewing Machine Co., reports.

To correct this "anomaly," Mr. Bruder advocates that the textile industry help retailers increase sales to the home-sewing market through national advertising programs.

Better Hosiery Sales Expected This Year

Women's-hosiery production in 1957 is expected to end its chronic oversupply position of late years and become better adjusted to demand, Thomas Robson, president, Wayne Knitting Mills, and president of the National Association of Hosiery Manufacturers, predicts.

Robson expects a marked improvement on hosiery sales in 1957 and urged hosiery men to discontinue price promotion and concentrate on making hosiery a matter of style excitement to women.

from Maryland to Florida where some 65 organizers are now working. In fact, the unions anticipate better luck in the future.

Here's the strategy they've laid out for this year:

Organizing campaigns will continue at Burlington, with particular emphasis on 30 Burlington mills in Roanoke, Alta Vista, Galax, and Radford, Va.; Chattanooga, Tenn.; and Greensboro and Charlotte, N. C. These mills employ about 18,000 workers. Burlington is target Number One—the company that the AFL-CIO feels has to be organized if the Southern drive is to succeed.

Other specific targets are Pepperell plants in Georgia and Alabama and the Cannon plant in Kannapolis, N. C. Campaigns have been going on for some six months in these plants, so far with no concrete success.

New strategy is being developed to drive home the union appeal to the workers. "It isn't enough to promise a wage increase," says one organizer. Specific issues of concern to employees that will be emphasized are lay-off of older workers, promotions, company loans and advances, and other matters that the employees are particularly interested in. Too, organizers will make specific appeals according to territories on the theory that workers' attitudes may vary geographically.

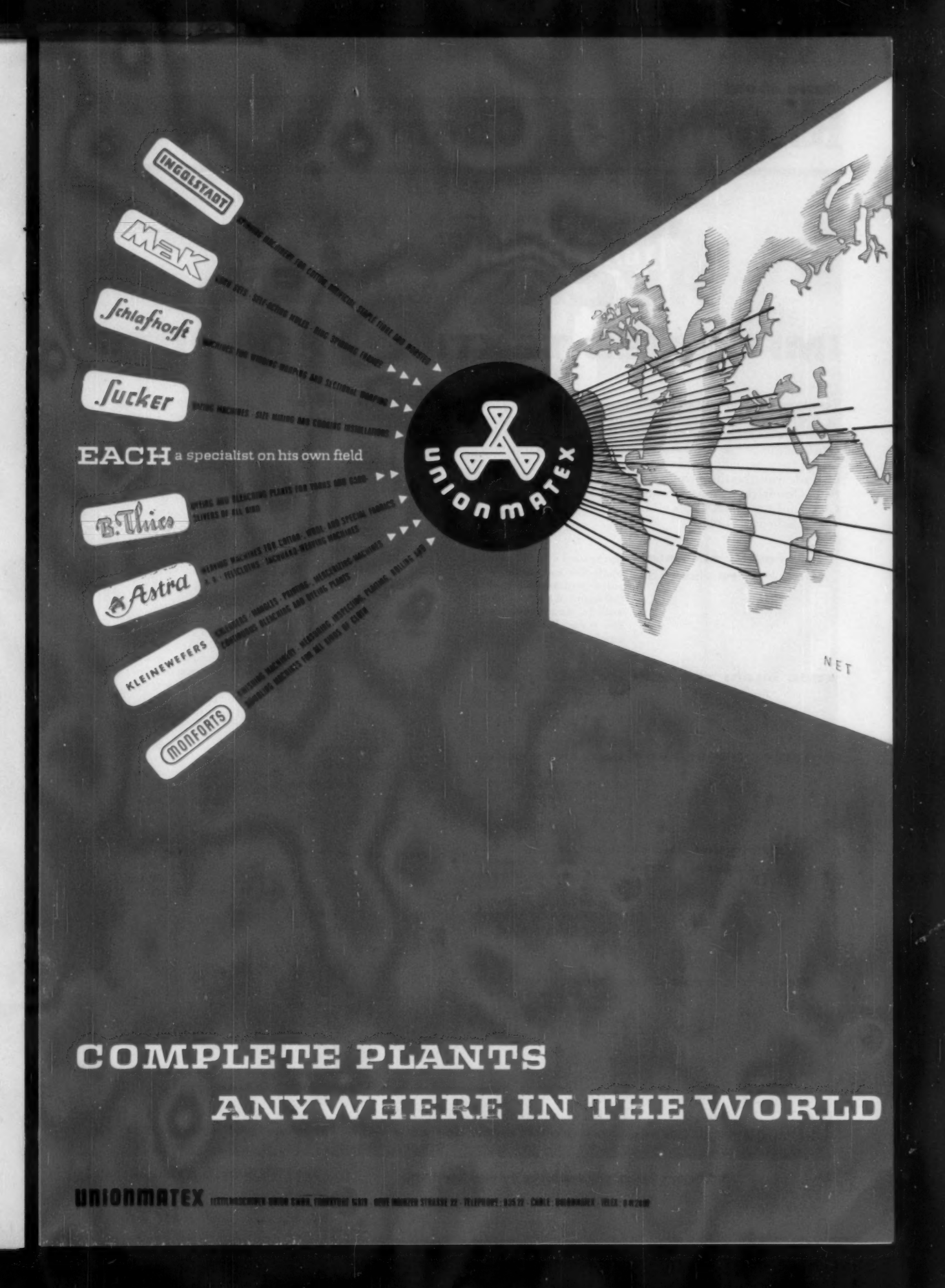
Efforts will continue to get rival unions working together, particularly on the local level. The former CIO Textile Workers Union and the ex-AFL United Textile Workers still are unable to agree on a joint organizing campaign, and most of the current textile drive is being conducted by the one-time CIO union. This rivalry is holding up a combined assault and has hindered the campaign to some degree. With the failure to merge at the top level, organizers are promoting local cooperation between the two unions.

AFL-CIO and textile-union organizers will continue to promote wage gains, in effect through the back door, as more and more nontextile industrial firms move into the South and are quickly organized. Ford and General Motors warehouses, General Electric plants, Douglas Aircraft, and other firms moving into Southern territory are, for the most part, paying wages that run as high as $1 an hour above textile wages. Textile organizers feel that these wage differentials are going to have an impact on the textile employee and make organizing easier in the future.

But there's no feeling that the Southern textile mills are going to be quickly organized. In general, textile-company resistance will continue to be successful. Says one organizer: "The employees are much better off than they were in the '30s, and they're looking back instead of ahead. We can sign up the 30% to get an election, but we can't get any further."

The recent closing down of a Darlington, S. C., mill after the Textile Workers union won a representation election has helped to set back the organizing campaign, according to the AFL-CIO. This kind of reaction to organized labor is big news in territories where the organizers are working.

Indications that the organizing campaign in textiles isn't going well also come from the National Labor Relations Board. Figures for the year ending last June 30 show that out of 79 elections in textile mills, only 42 were won by unions; 37 chose no-union. This compares with the previous 12-month period, fiscal 1955, which shows that of 94 NLRB elections in textile mills the unions won all but 27 of them. In both years the union victories were well below the national average, but the fiscal 1956 figures show a definite drop in textiles from the year earlier.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Textile manufacturers and converters are using Hycar Latex in a wide variety of applications to make their products better in many ways . . . to increase wear resistance, reduce crocking, improve wrinkle resistance. The list gives many more. For complete information on how Hycar Latex can upgrade your textile products, please write Dept. EV-6, B. F. Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

Improves abrasion resistance Hycar used as a permanent warp size for cotton provides permanent abrasion resistance during weaving—adds wear resistance and color fastness to the finished fabric.

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Provides better hand Hycar, used as an after-treatment on cotton, improves wearing qualities—provides a better, fuller hand.

Prevents fiber deterioration Hycar blended with melamine or urea-formaldehyde resins prevents deterioration of rayon and cotton fibers when large amounts of U-F resins are used for crease and wrinkle resistance.

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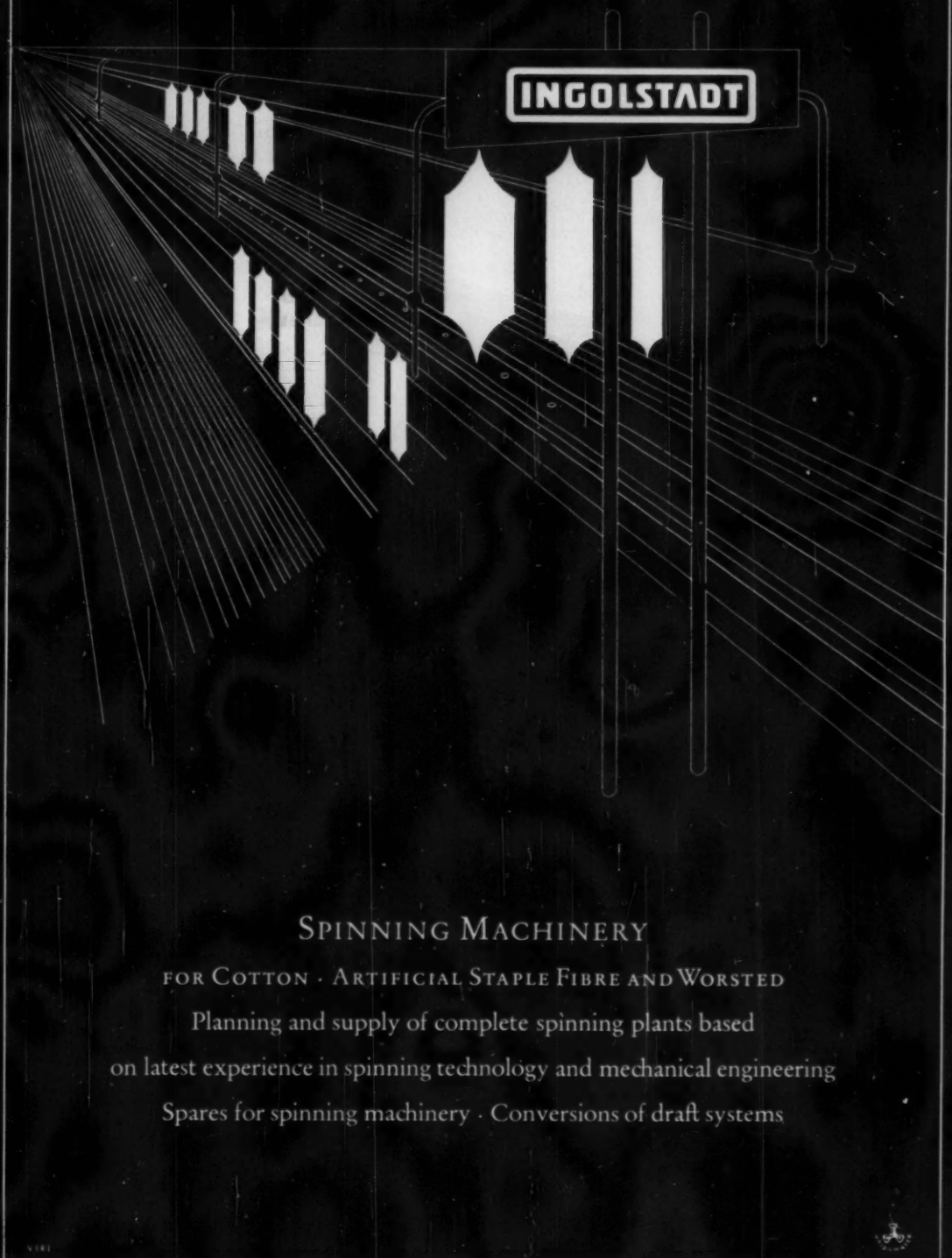

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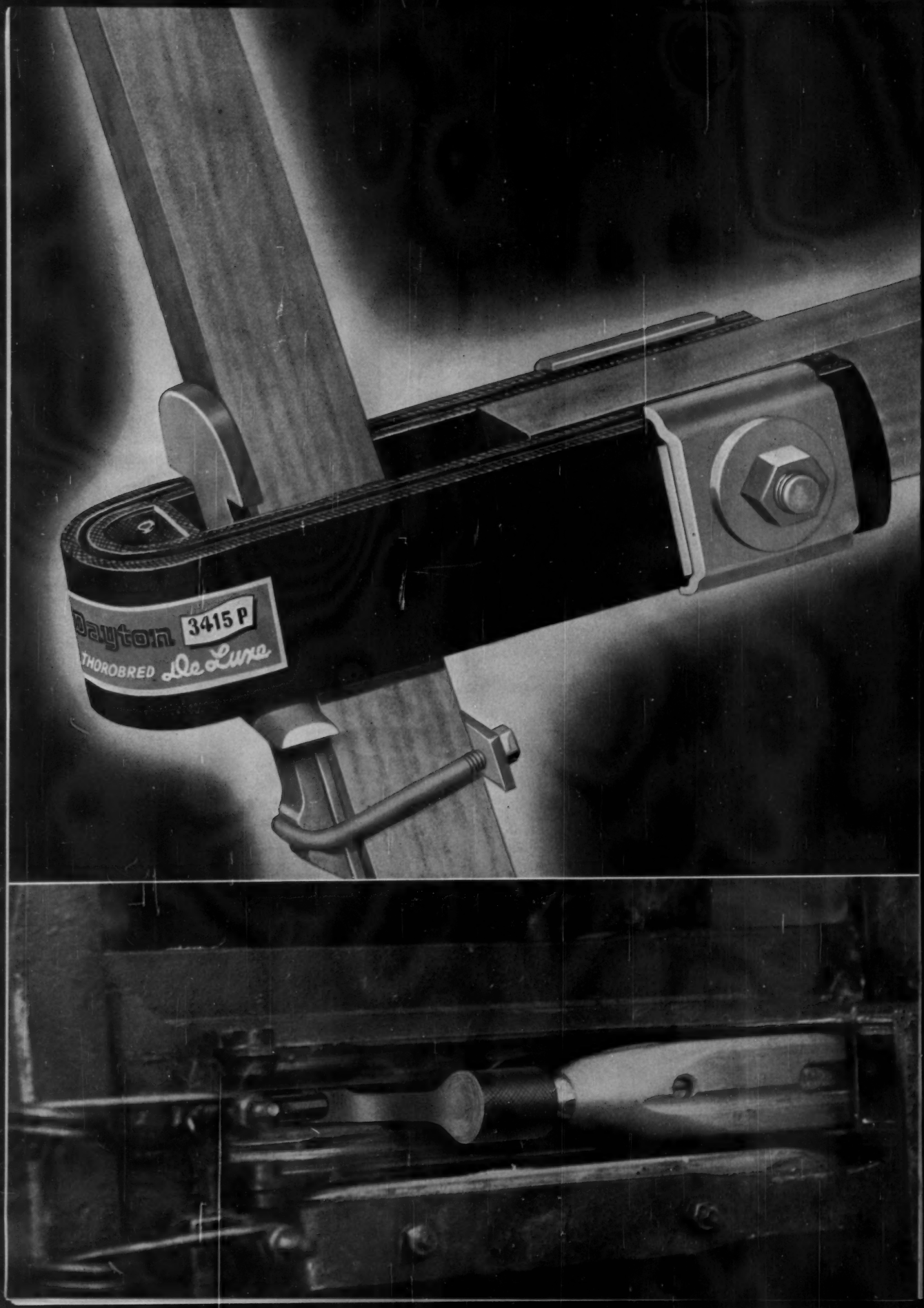
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increase production and lower operating costs

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Install Dayton Thorobred Drop Box Pickers and Deluxe Lug Straps and you immediately provide *double* protection against shock for expensive loom parts. They'll take millions of shuttle contacts and picker stick thrusts without fatigue. Because of their scientific construction they offer the *exact amount of shock absorption needed for the specific degree of shock at each and every point of contact.* Check these construction features:

Dayton Thorobred Deluxe Lug Straps, having a one piece, rivet-free construction, give twice the service of ordinary straps. The molded plug, built into the strap loop, cushions the thrusts of the picker stick in rapid motion. Added strength is gained from a longitudinal cord in the center of the lug. Easily applied, they work perfectly in any weather.

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1. Extra hard composition in the bearing surface around the spindle hole.
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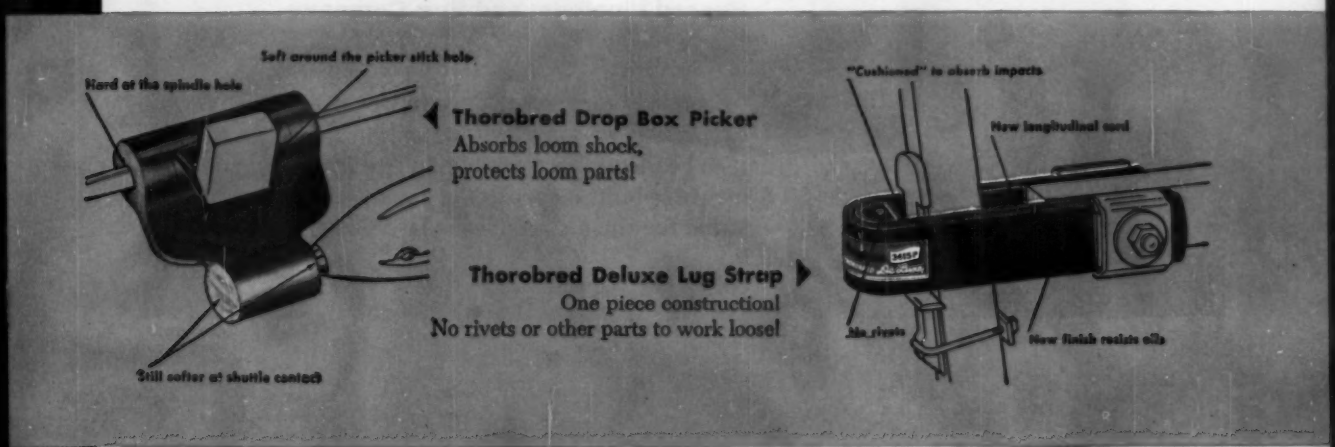
Dayton Drop Box Pickers are available in reversible or non-reversible construction.

To double your protection of expensive, related loom parts, increase production and cut costs ask your Dayton Jobber for additional details – he'll be calling on you soon. Or write direct to The Dayton Rubber Co., Textile Division, 401 S. C. National Bank Bldg., Greenville, S. C.


Soft around the picker stick hole
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Absorbs loom shock,
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One piece construction!
No rivets or other parts to work loose!
"Cushioned" to absorb impacts
New longitudinal cord
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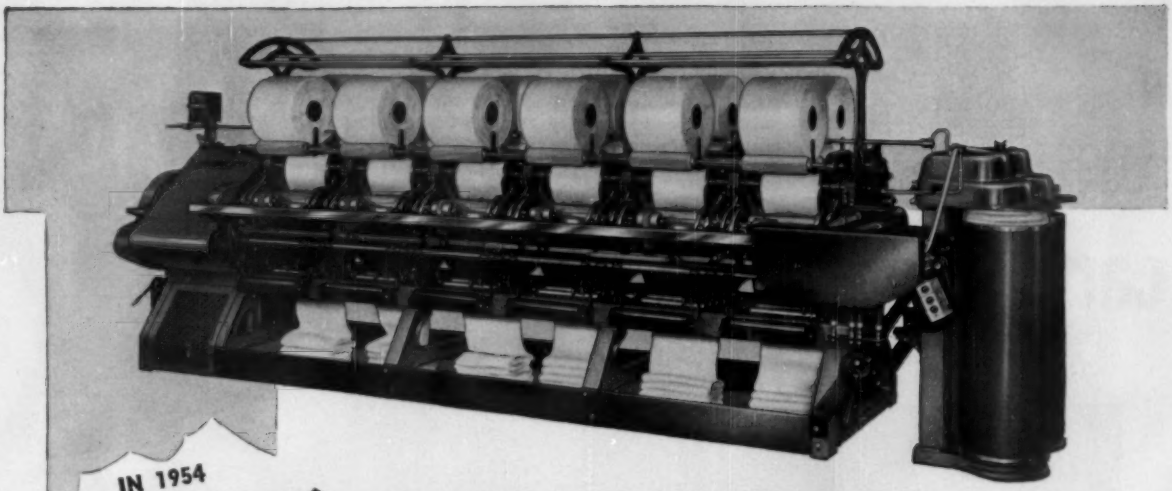

IN 1954

78% of all the combed yarn produced in the U.S. was processed on SACO-LOWELL COMBERS

PURCHASERS OF SACO-LOWELL MODEL 56 COMBERS IN 1956

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More than 380 Saco-Lowell Model 56 Combers were purchased in 1956 . . . by mills here and abroad.

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Contact your nearest Saco-Lowell sales office for complete details or arrangements for a demonstration.

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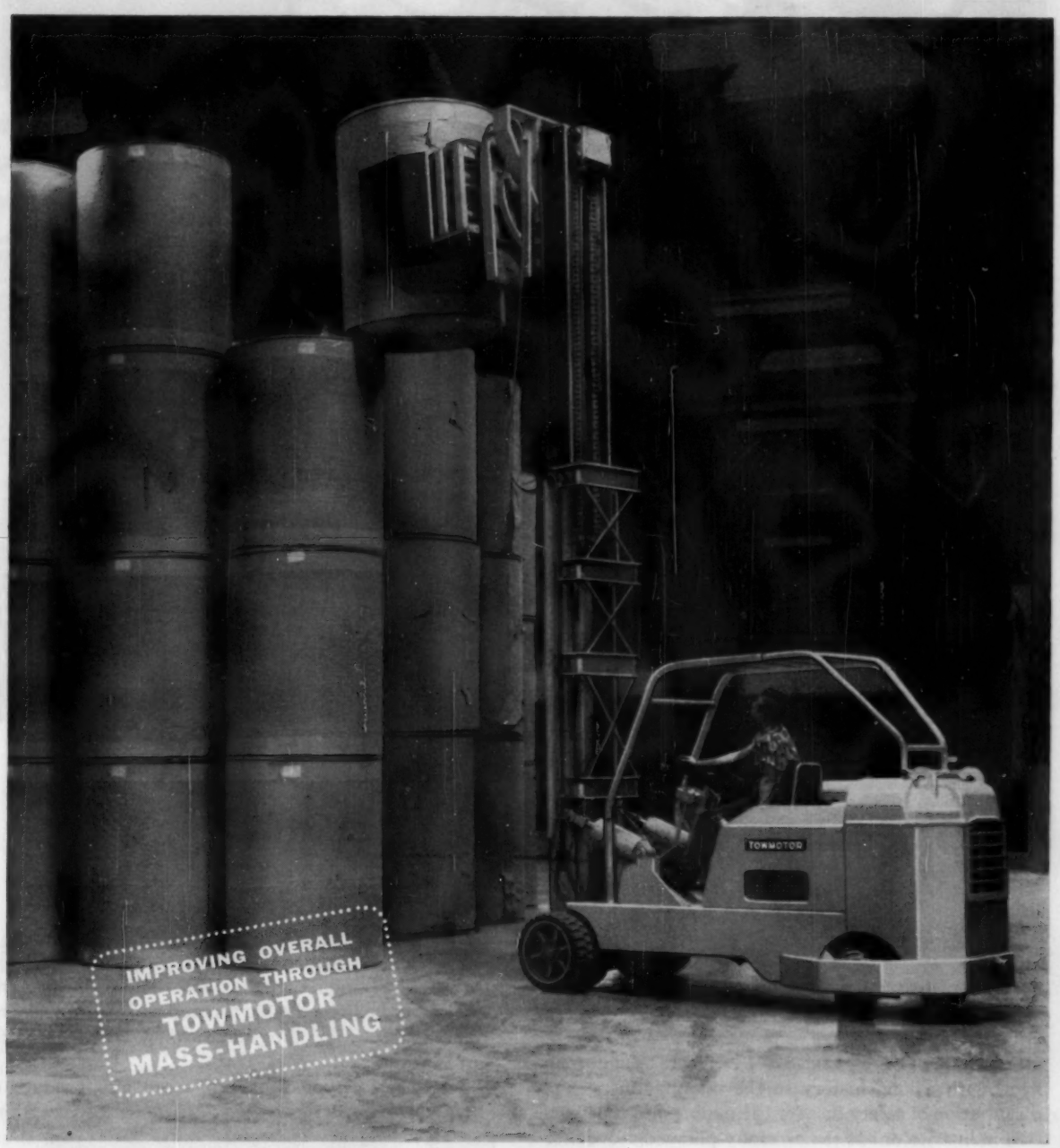

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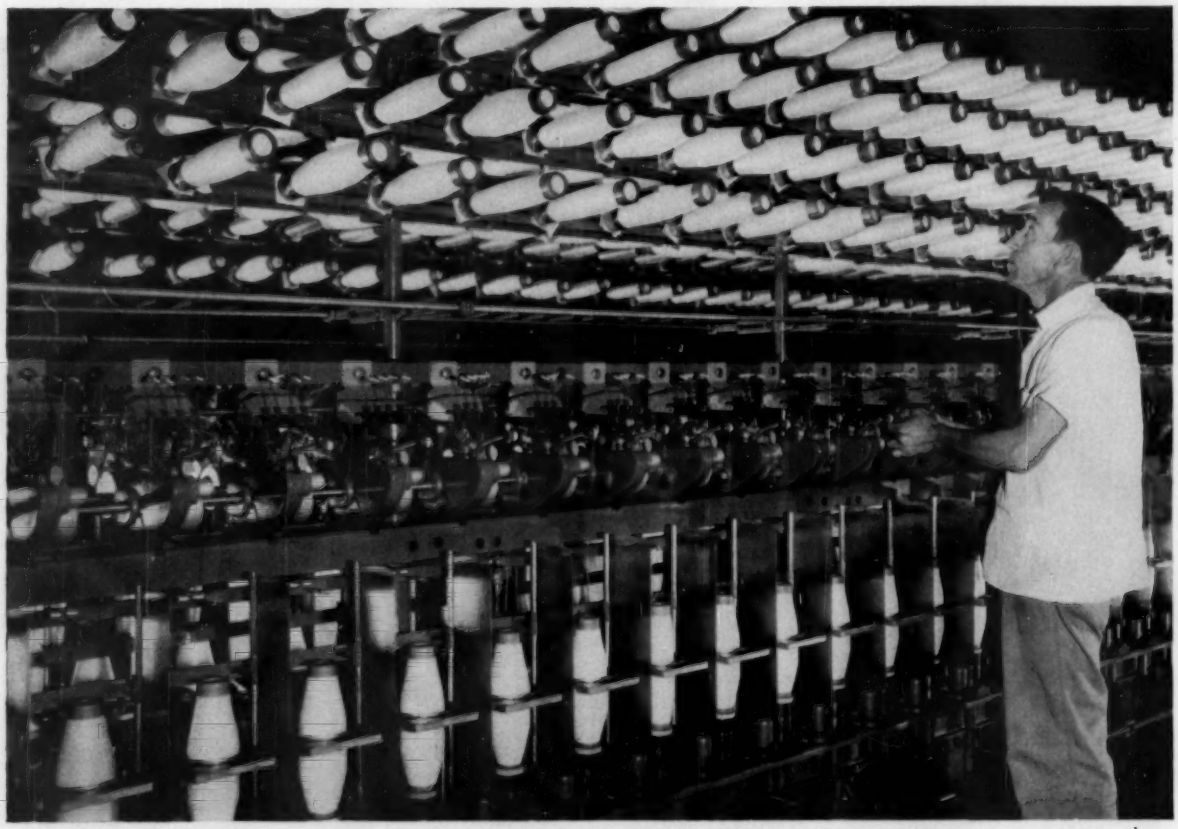

Leesona Model 10 Ring Twisters processing glass yarn at the Seguin, Texas, plant of the Coast Manufacturing and Supply Company. The firm produces Trevarno Glass Fabrics.

Producers of TREVARNO GLASS FABRICS chose Leesona Model 10 Ring Twisters

Years of research and planning went into the decision of Coast Manufacturing and Supply Company to enter the textile industry as processors and weavers of glass cloth. The 85-year-old Livermore, California, firm, with a long history in the manufacturing and distribution of safety fuse for the mining and construction industries, made the carefully-planned move into textiles in 1947.

Ralph E. Merritt, president of the firm, reports:

"After evaluating other types of twisting equipment, Coast Manufacturing and Supply Company decided upon the Leesona Model 10 Ring Twister."

Model 10's are used exclusively in Coast Manufacturing's 800-spindle twister installation in Seguin, Texas, producing a double-tapered package which can be used directly for filling and warping operations without rewinding.

Versatile Leesona Model 10's can also produce a tapered top or straight wind package. They are ideal for processing not only glass yarn, but rayon, spun rayon, nylon, silk, wool, worsted, cotton and combination yarns, and the new bulk and stretch yarns as well.

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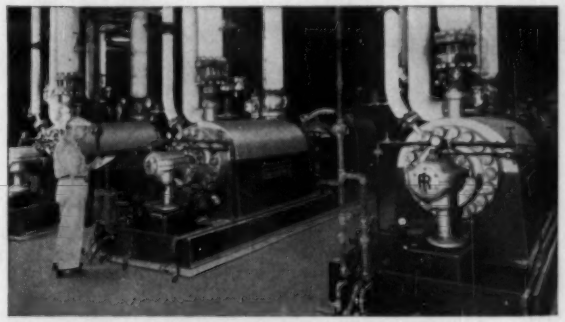
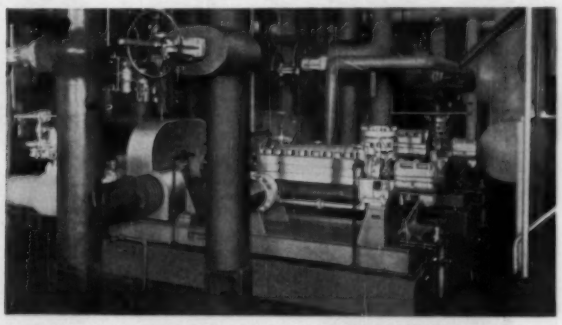
at all pressures, capacities, temperatures.

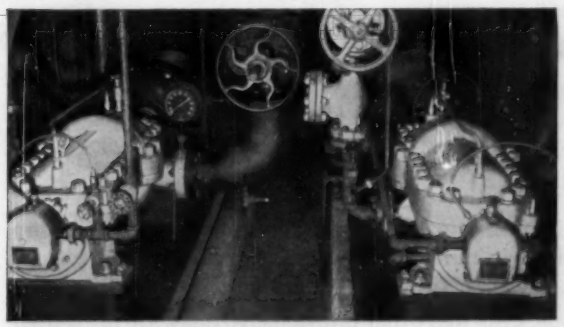
Typical I-R installations indicate wide range of use in central stations and industrial plants



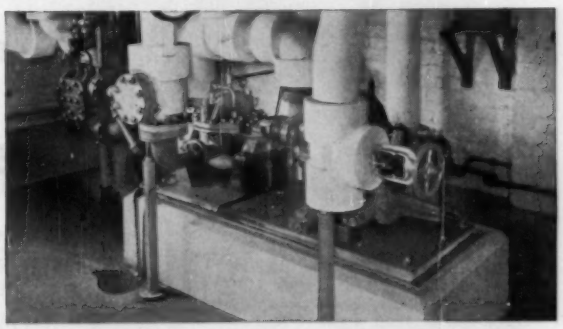
PRESSURES UP TO 6500 psi.—Class CHTA-CHTB: These multi-stage, cylindrical "double-case pumps meet the most exacting needs of the highest-pressure boilers in modern central station service. Each of the above pumps handle 1100 gpm of feedwater at 2395 psi.



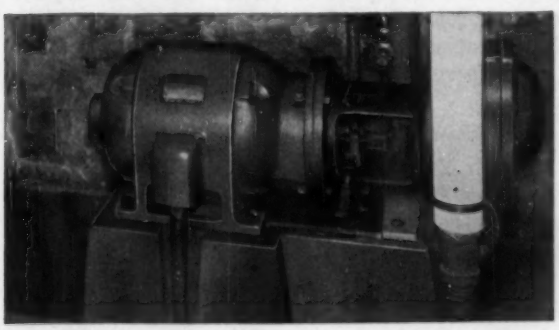
PRESSURES UP TO 1200 psi.—Class HMTA-HMTB: A complete line of multi-stage centrifugal pumps featuring a symmetrical, horizontally-split casing, and a simplified unit-type rotor assembly. The pumps illustrated are on boiler feed service in a large textile mill.



MEDIUM PRESSURES UP TO 1000 psi.—Class CNTA: Symmetrical design with unit-type rotor gives CNTA pumps higher efficiency, easier maintenance, and attractive modern appearance. Installed in a large paper mill, the boiler feed pumps shown operate at 3560 rpm and deliver 180 gpm at 605 psi.



PRESSURES TO 450 psi.—Class GT: Dependability is designed into this line of two-stage, horizontally split pumps. Standard construction includes renewable wearing rings and water-cooled, ring-oiled bearings. Pump shown serves as a boiler feed unit in a large candy factory.



PRESSURES TO 250 psi. — Motorpumps: A complete line of space-saving centrifugal pumps, including both close-coupled and cradle-mounted types. Single , two-stage, and vertical four-stage models are available. Pump shown is handling boiler feed in a leather factory.

Ingersoll-Rand boiler feed pumps have many refinements in design and construction that add up to high operating efficiency. Skilled manufacture and painstaking factory inspections assure dependability built into every pump. Inherent simplicity and ruggedness mean easier and less maintenance—and trouble-free performance.

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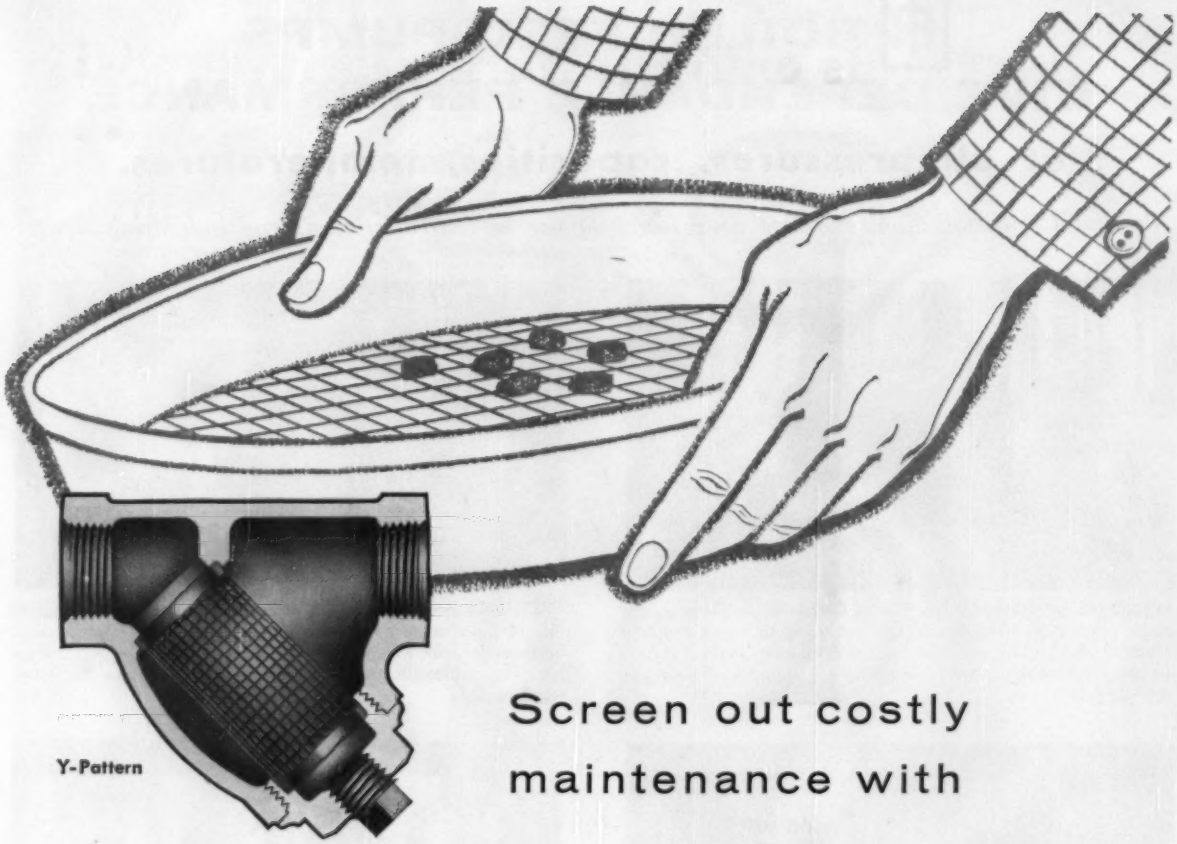
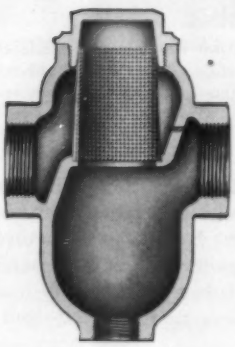


Y-Pattern

Screen out costly maintenance with

CRANE SEDIMENT SEPARATORS



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Crane Sediment Separators positively and automatically trap foreign matter in fluid handling lines—steam, water, air, oil or gas, high or low pressure—and hold it for easy removal.

Dirt, scale, sand and other injurious particles are prevented from damaging or spoiling product and ruining valve seats, automatic devices and other delicate equipment.

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Available in both Y-patterns and vertical types, with full range of capacities and sizes. For literature on Crane Sediment Separators, see your Crane Representative or write to address below.

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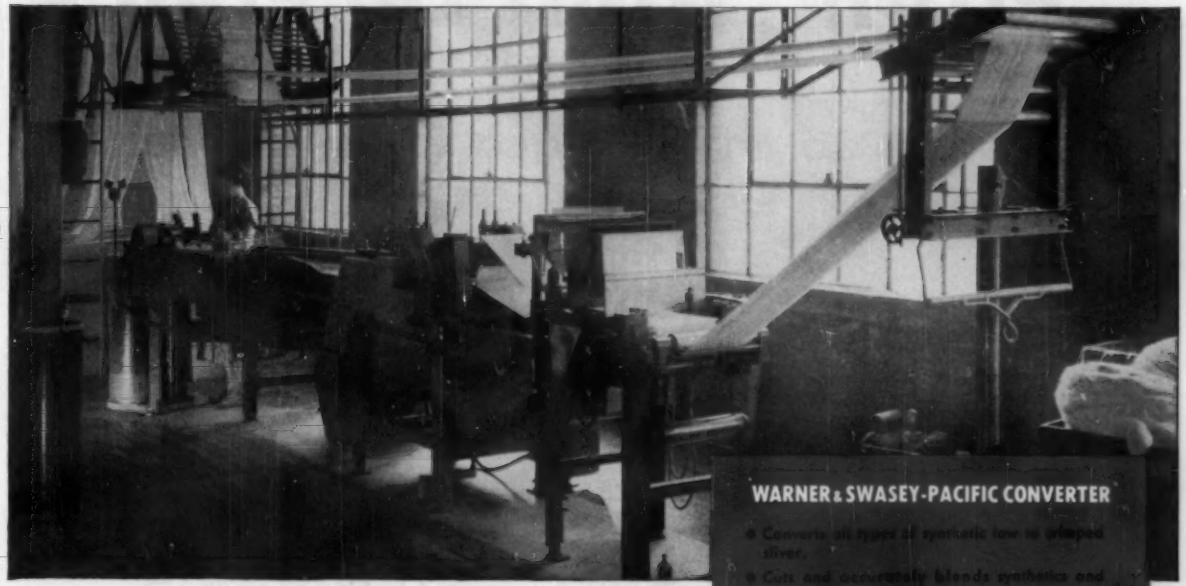
slashes costs on nylon yarn for Newlands!

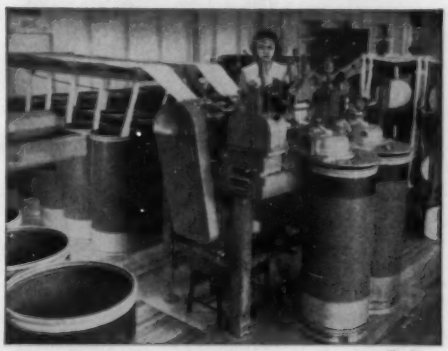


DIRECT PROCESSING of nylon tow by the Warner & Swasey-Pacific Converter has enabled Newlands Manufacturing, Ltd., Galt, Ontario, to drastically cut costs on production of nylon sweater and hand knitting yarn.

Previously, this yarn had to be processed from cut staple—a production process that eventually proved competitively unprofitable. With the Converter, this mill not only met this type of competition, but was able to cut prices.

The Converter operates 22 hours a day, producing 100 to 115 pounds per hour. Approximately 3000 pounds of their weekly production is Orlon, produced over the Converter's exclusive heat-stretch unit.

If you process synthetic or blended sliver, it will pay you to investigate the application of the Warner & Swasey-Pacific Converter to your work. Call in our Field Engineer.



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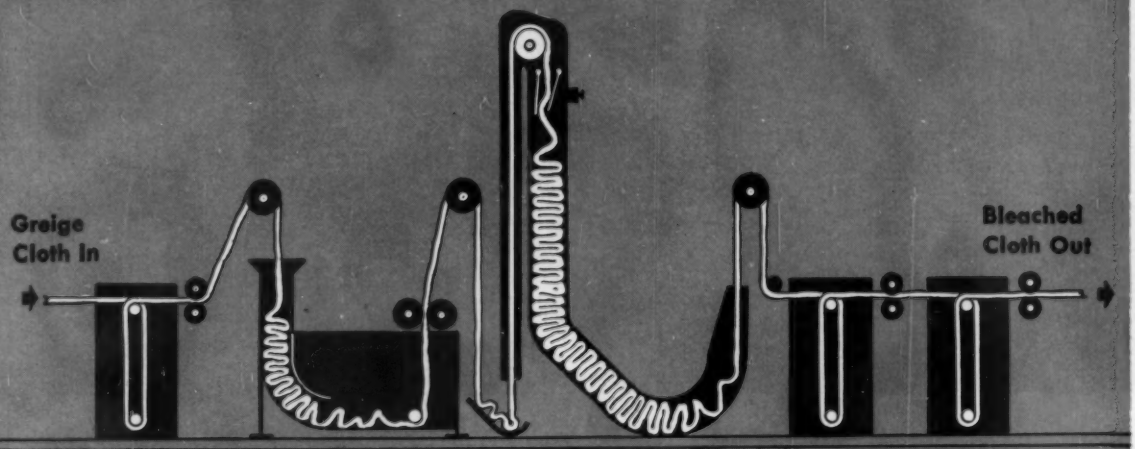
THIS IS THE COMPLETE SOLO-MATIC PROCESS



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A new 3-part bleaching program to improve quality and reduce costs

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Du Pont's new one-step continuous bleaching process offers mills now operating multi-stage processes these advantages:

—Higher quality, more uniform bleaching of cotton woven goods with half the usual equipment—half the usual floor space; or, *doubled production* from present equipment.

—A more efficient process . . . savings up to 50% in operating costs.

—Reduced over-all bleaching costs with savings up to 20%.

—Greater flexibility—each stage of a multi-stage system can be turned into a complete unit . . . each bleaching a different cloth at maximum efficiency.

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Improved quality—fewer moving parts. The simplified construction of this J-Box keeps cloth distortion and abrasion at a minimum. More uniform bleaching—higher, more uniform heat and chemicals used at their maximum efficiency. More economical installations—installation, construction and maintenance costs are far lower.

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At your request, your Du Pont Solo-Matic Service Team is ready to make a complete survey of your operation . . . make detailed, confidential recommendations based on these findings . . . outlining the most economical means of utilizing your present equipment as the basis for the new Solo-Matic Process in your plant.

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Please have my Representative call with full information on the "Solo-Matic" Bleaching Program.

Name_____ Title_____

Firm_____

Address_____

City_____ Zone_____ State_____

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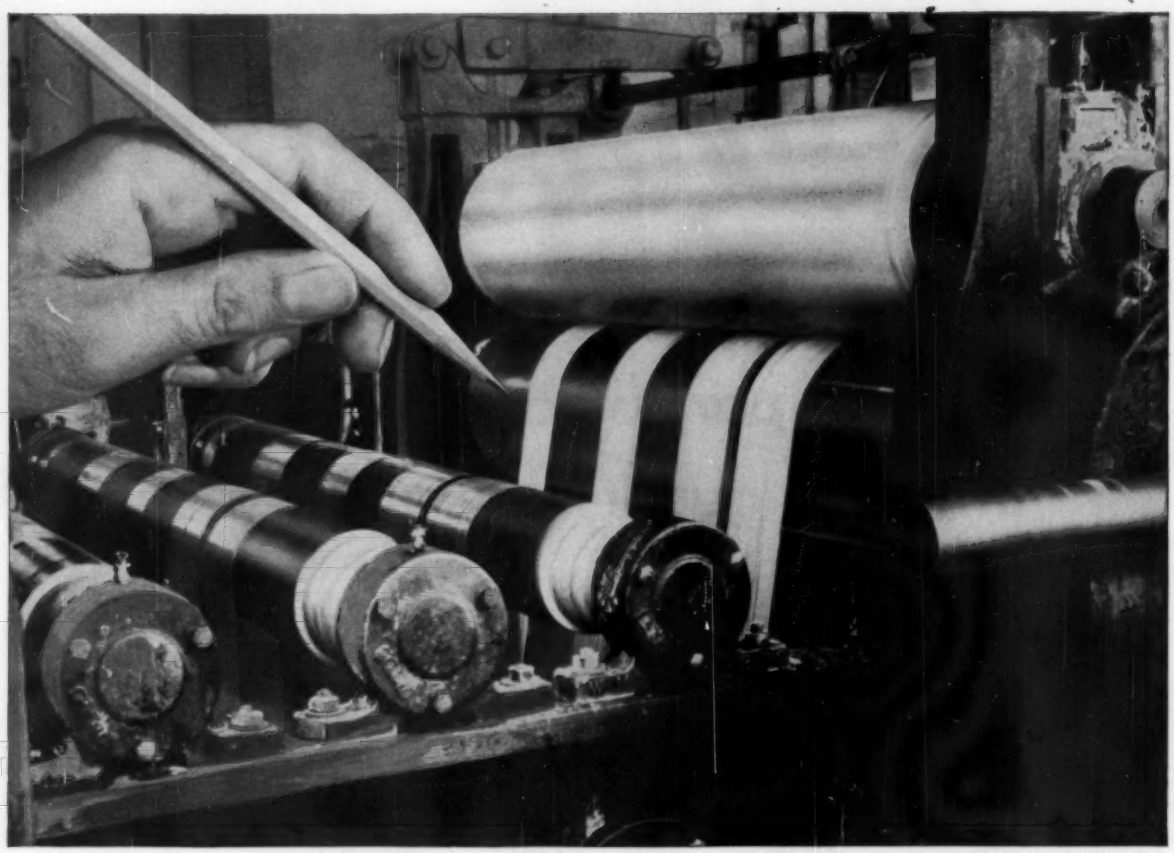


Longer, Trouble-Free Service with MANHATTAN Rubber Covered Rolls

Advanced developments in roll cover compounds make Manhattan Rubber Covered Rolls last longer and reduce machine downtime for replacement. A superior rubber-to-metal bond, exclusive with Manhattan, makes separation of the rubber roll cover from the metal core virtually unknown. Roll failures due to cracking, hardening or corrugation are eliminated.

The most up-to-date precision roll grinding and vulcanizing facilities permit experienced Manhattan craftsmen to cover textile rolls for your specific production requirements . . . and insure accuracy of dimension within .002". You get permanent, uniform and correct density for uninterrupted finishing operations under all working conditions.

Over 60 years' experience in covering and handling rolls for the textile industry serves you when you discuss your job requirements with an R/M roll covering specialist. Let him show you how you can get longer, trouble-free service . . . "More Use per Dollar" . . . with Manhattan Rubber Covered Rolls.

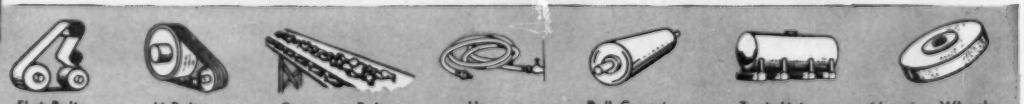
RM 617

ROLL COVERING PLANTS AT PASSAIC, N.J.—NEENAH, WIS.—NORTH CHARLESTON, S.C.

RM

MANHATTAN RUBBER DIVISION—PASSAIC, NEW JERSEY

RAYBESTOS-MANHATTAN, INC.



Other R/M products include: Industrial Rubber • Fan Belts • Radiator Hose • Brake Linings • Brake Blocks • Clutch Facings Asbestos Textiles • Packings • Engineered Plastic, and Sintered Metal Products • Laundry Pads and Covers • Bowling Balls

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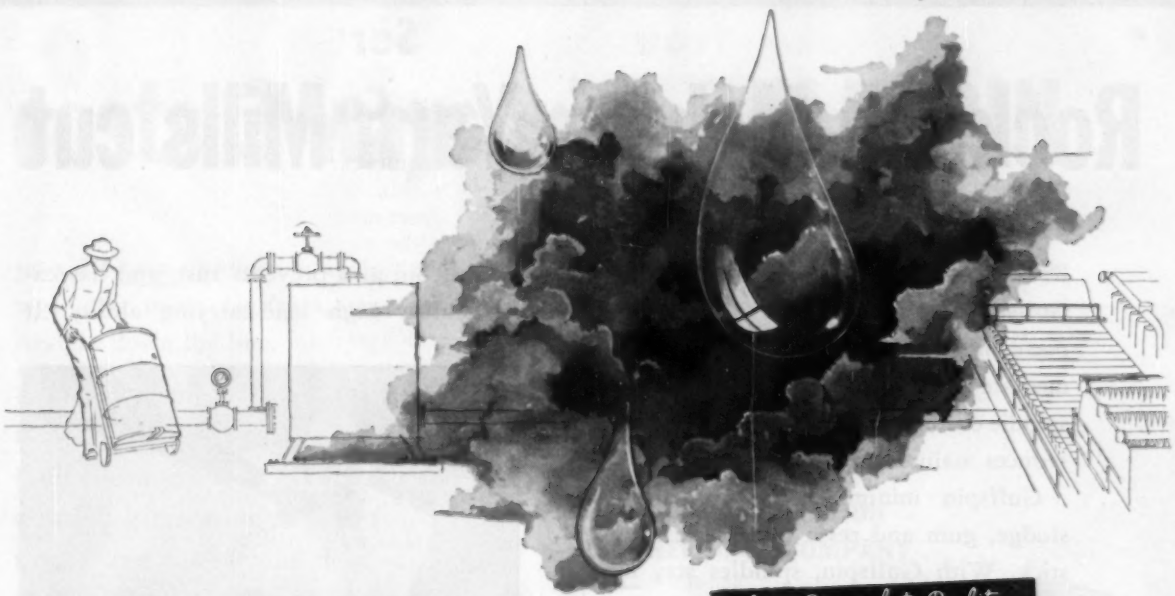
IGEPON® T-33

THE EASY-TO-HANDLE LIQUID DETERGENT

IGEPON T-33 is a clear, homogenous liquid which can be shipped and stored in bulk. It requires no dissolving and can be measured out in dippers or pails, or piped from storage tank to point of usage.

For top performance in textile washing, IGEPON T has long been the answer. With the introduction of the concentrated liquid form, IGEPON T-33, it is now tops in performance, economy and ease of handling. Ask your Antara representative how IGEPON T-33 can do a real job for you in wool, cotton, or synthetic fiber processing.



From Research to Reality

ANTARA gaf

ANTARA CHEMICALS

A SALES DIVISION OF

GENERAL ANILINE & FILM CORPORATION

435 HUDSON STREET · NEW YORK 14, NEW YORK

SALES OFFICES: New York • Boston • Providence • Philadelphia • Charlotte • Chattanooga • Chicago
Portland, Ore. • San Francisco • Los Angeles. IN CANADA: Chemical Developments of Canada, Ltd., Montreal

Igepon T-33 manufactured by General Aniline & Film Corporation is sold outside the United States under the trademark "Fenopon T Liquid."

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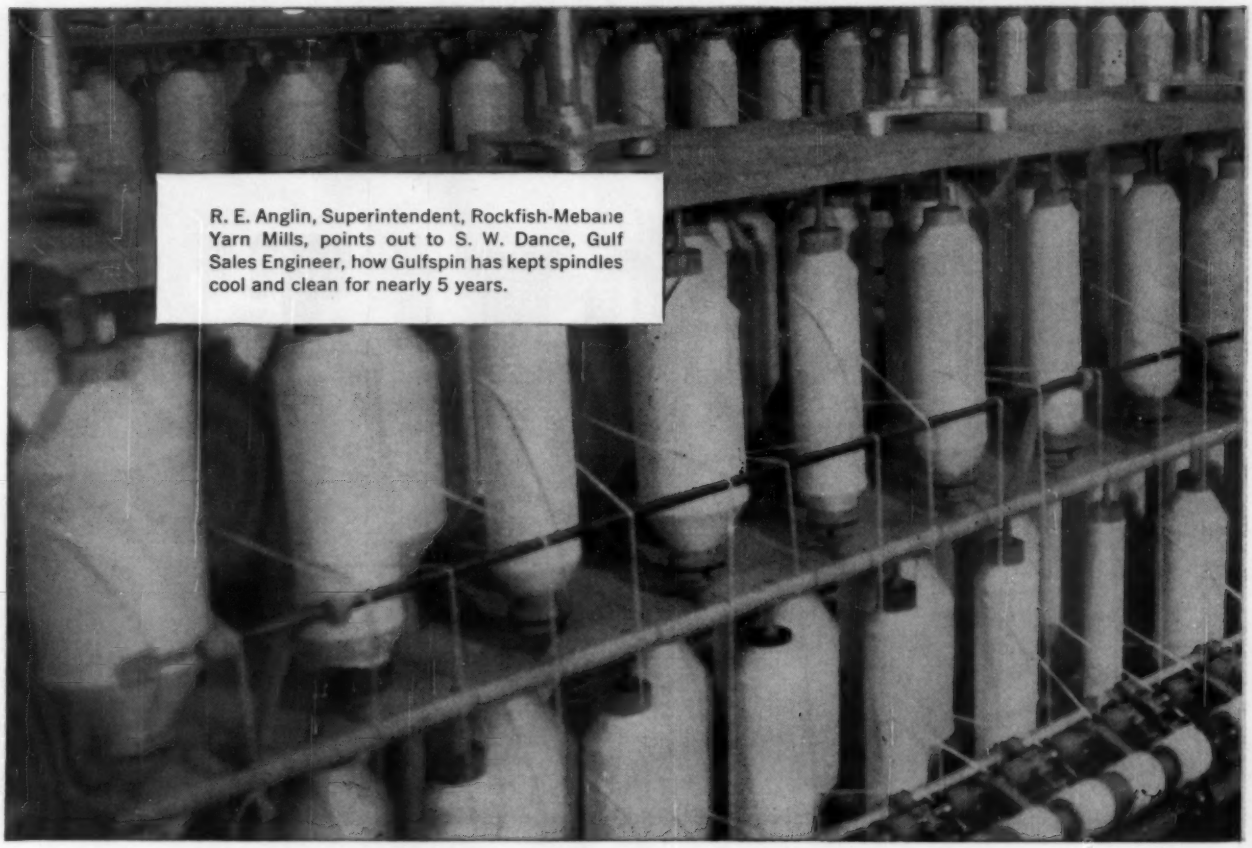


R. E. Anglin, Superintendent, Rockfish-Mebane Yarn Mills, points out to S. W. Dance, Gulf Sales Engineer, how Gulfspin has kept spindles cool and clean for nearly 5 years.

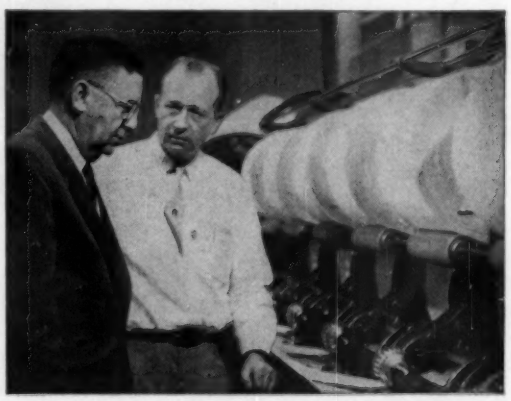
Rockfish-Mebane Yarn Mills cut

Rockfish-Mebane Yarn Mills have used Gulfspin for nearly 5 years to keep spindles performing efficiently. Gulfspin offers immediate savings in 3 different ways: cuts spindle cleaning costs; conserves power, and reduces maintenance costs.

Gulfspin minimizes the formation of sludge, gum and resin that make spindles stick. With Gulfspin, spindles stay clean. You save money on cleaning costs.

Gulfspin viscosity stays the same over long periods of time—8 years in one recently checked mill! Because viscosity doesn't increase, you drive your spindles without wasting power. This means substantial savings in power costs.

Gulfspin also prevents rust, and has exceptionally high load-carrying ability. It



Gulf Harmony Oil is highly resistant to oxidation, lasts indefinitely. It is the oil used to lubricate gears and bearings on this Saco-Lowell Comber.

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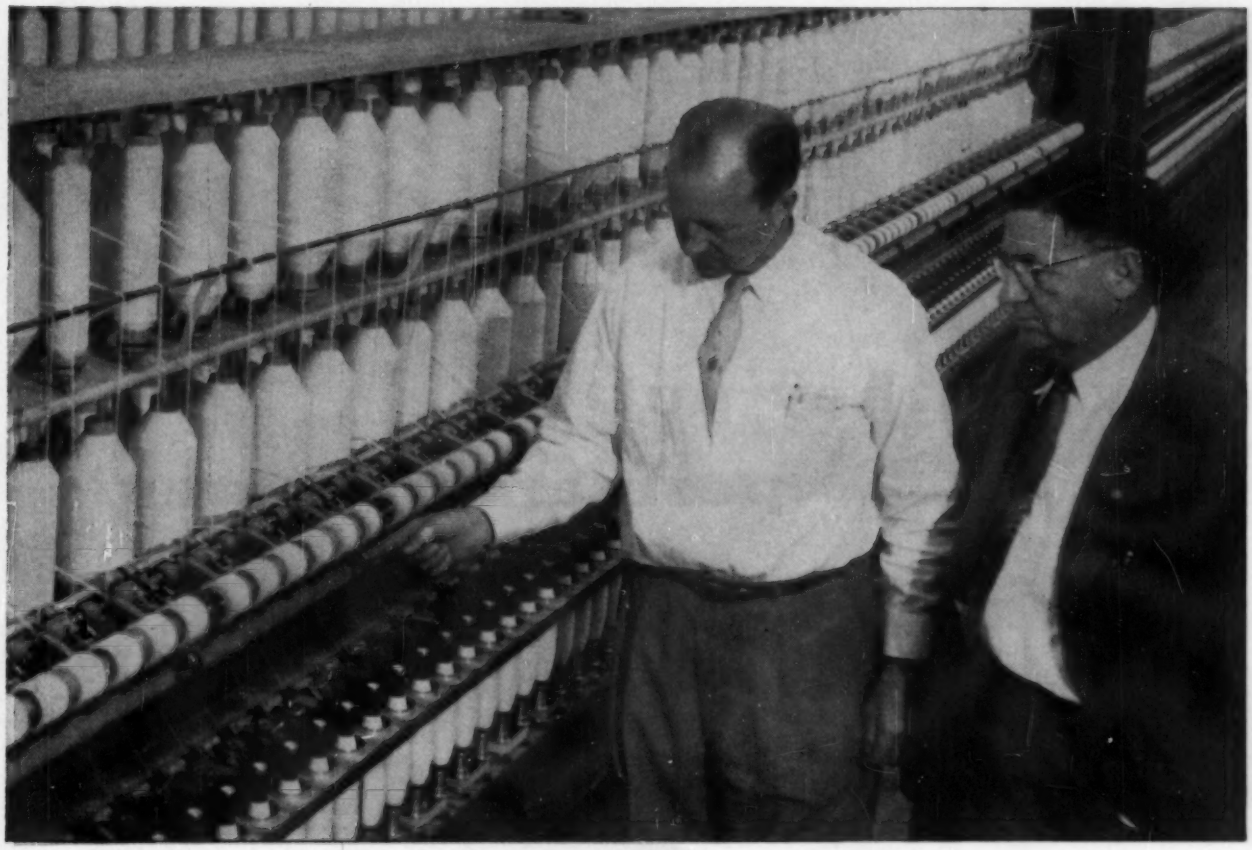

costs 3 ways with GULFSPIN

provides better protection against excessive wear. By using Gulfspin, you cut costs straight down the line.

Another great oil developed by Gulf and widely used at Rockfish-Mebane is Gulf Harmony. Gulf Harmony provides a tough lubricating film, resists oxidation, leaves no harmful deposits. Available in a wide range of viscosities.

For further information on either Gulfspin, Gulf Harmony Oil—or both—contact a Gulf Sales Engineer at your nearest Gulf office.

GULF OIL CORPORATION
GULF REFINING COMPANY
1822 Gulf Building
Pittsburgh 30, Pennsylvania

THE FINEST PETROLEUM PRODUCTS FOR ALL YOUR NEEDS

GULF

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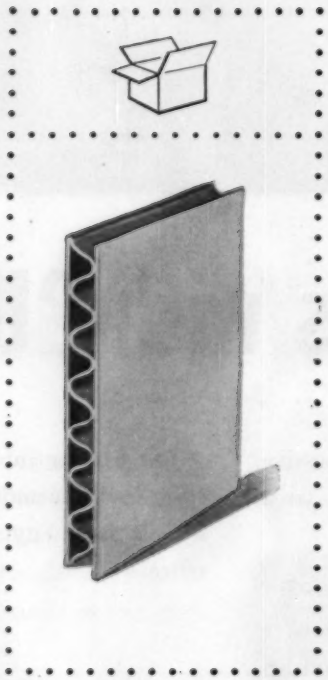
what you
should know
about
FLUTES
in
Union Boxes

Why do they put "permanent waves"



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in corrugated boxes?

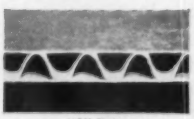
The small "waves," or flutes, in the center section of corrugated board are a vital box construction feature. Like bridge trusses, they absorb and distribute shock — provide extra rigidity for the walls of your shipping container.

Flutes are like bridge trusses

All flutes, as the illustrations show, are not alike. No one is "best." Each does a specific job. Selecting the type you should be using calls for a detailed analysis of your product. This is one small part of Union's complete package engineering service. These fundamentals, however, are excellent guideposts:

The corrugator forms the flutes

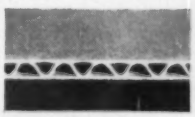
An "A" for cushioning



"A" flutes

"A" flutes were the first type used in corrugated box manufacture. They have the highest arches—about 3/16 inch. "A" flutes are generally used for fragile articles because their greater height offers extra cushioning protection and better stacking strength.

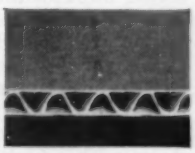
"B" flutes–smallest and stiffest



"B" flutes

"B" flutes are lower, stiffer than "A," have 42 per cent more flutes per foot. Because of reduced thickness, "B" flute board makes a neater package, takes up less warehouse and car space. Excellent for heavy items like canned goods which support their own weight, thus require less shock resistance.

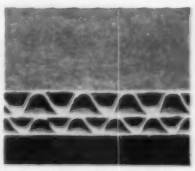
"C"—the in-between flute



"C" flutes

Half-way and happy medium between "A" and "B" are "C" flutes, probably the most commonly used today. They combine the best features of the other two and are often an excellent compromise.

Combinations may be needed



"C"-"B" flutes

Flutes may also be combined, one on top of the other, to form a double wall container. The combinations most generally used are "A"-"B" and "C"-"B." The double walls provide greater protection and cushioning, and are ideal for heavy duty containers.

Union Box engineers are always ready to help you determine the proper flute, or combination. You'll find, too, that the flutes in Union Boxes are consistently well formed—each of uniform height—each taking its full share of the load.

This sturdy construction is one of your best assurances of dependable performance of your corrugated shipping container.

union camp

UNION BOXES

UNION BAG-CAMP PAPER Corporation

233 Broadway, New York 7, N. Y.

Factories: *Savannah, Ga., Trenton, N.J., Chicago, Ill., Lakeland, Fla.*
Sales Offices: *Eastern Division—1400 E. State Street, Trenton, N. J.*
Southern Division—P.O. Box 570, Savannah, Ga.
Western Division—4545 W. Palmer, Chicago, Ill.

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MICRO SWITCH . . . FIRST IN PRECISION SWITCHING

Here are easy, quick and economical ways to boost plant production ...AT LOW COST

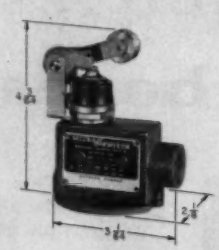
There are literally "uses unlimited" for MICRO SWITCH precision switches on textile machinery. Whether you are a manufacturer of textile equipment or a mill operating man, it will pay you to investigate these extremely reliable, long-life, precision switches.

Illustrated are just two of thousands of practical uses to which MICRO SWITCH precision switches have been put in order to make textile machinery more automatic, more productive and safer.

On a dyeback machine a sealed limit switch is used as a door interlock. When the door of this cloth-dyeing machine is opened, the switch turns on the exhaust fan. Being sealed it is unaffected by regular washing down with a high pressure hose.

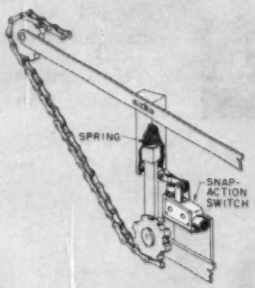
Well sealed to keep out lint and dirt, a MICRO SWITCH precision limit switch is used on the shipper rod of a spinning frame. The rod runs the length of the frame and the machine may be turned on or off by turning the shipper rod approximately 30 degrees. The limit switch is mounted at the end of the rod and is actuated when the rod is turned.

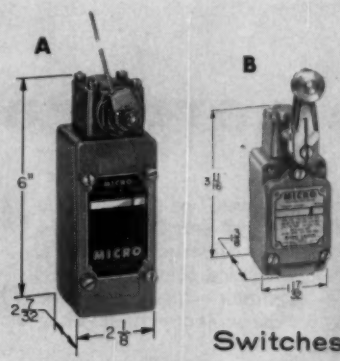
For complete information on switches for textile equipment contact the MICRO SWITCH distributor nearest you. Field engineering service is available for consultation at your nearest MICRO SWITCH branch office. Look under "Switches, electric" in the Yellow Pages.



This setup saves needles and time on knitting machines

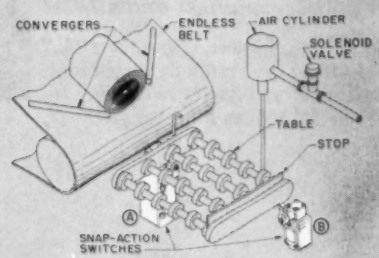
"We are using this setup on our knitting machines and it has saved us a lot of needles and time," a plant operator told us. The knitting machine has an electric stop motion. The MICRO SWITCH precision switch is used on the chain tightener brace so if the chain breaks or comes loose the machine will stop and not smash up. When the chain is tight, the switch arm is down. If the chain comes loose or breaks, the arm goes up and will ground the stop motion and stop the machine.





Switches automatically unload tied bundles of cloth

Bundles are centered on the conveyor by two convergers. Each bundle operates Switch A (long lever actuator) as it passes over the switch and on to a ball bearing table. The switch actuates a timing device which stops the conveyor and operates a solenoid air cylinder. The air cylinder tilts the table, dropping the bundle into a hand truck below. When the table returns to its normal position, it actuates small limit switch B which starts the conveyor again.



Send for Catalog 83 "Industrial Enclosed Switches."

MICRO SWITCH
A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS

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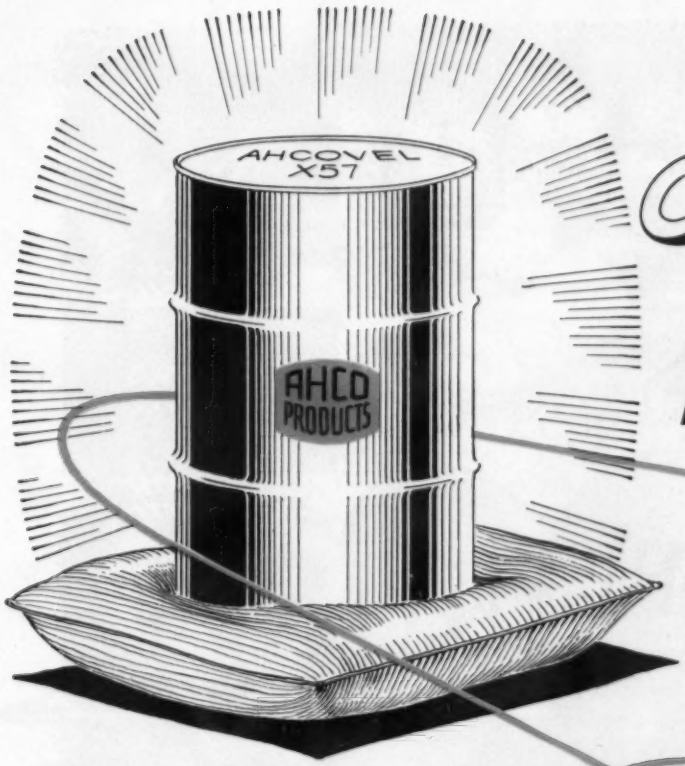

Introducing

AHCOVEL X57

The Most Effective All-Round Softener You'll Ever Use!

In the *new* Ahcovel X57 you'll find these special features:

Remarkable Versatility
Better Softening on Cotton, Rayon, NYLON, ORLON, DACRON
Easily Dispersible — A Fluid Paste
Lower Chlorine Retention
Better Resistance to Yellowing
A "Natural" For Resin Finishing Operations
Excellent Compatibility With Most Resin Catalysts
Better Wrinkle Recovery
Excellent Crease Resistance

Now, to the already famous family of AHCOVELS, a new and remarkably versatile member has been added.

Ask for more information about the remarkably different, all-purpose softener — AHCOVEL X57

Send for free copy of our handy "Laboratory Reference Chart" — just issued!

AHCO PRODUCTS

ARNOLD, HOFFMAN

ARNOLD, HOFFMAN & CO., INC. • EST. 1815
OFFICES & TECHNICAL SERVICE LABORATORIES
PROVIDENCE, ATLANTA, CHARLOTTE, TETERBORO
ASSOCIATED WITH IMPERIAL CHEMICAL
INDUSTRIES, LIMITED • LONDON, ENGLAND

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Wool and Cupioni® rayon... an item!

Newest fabric blend contains wool for soft, luxurious hand... Cupioni for silken beauty and shantung-type texture... and viscose rayon. It's washable!

Want an early look at this intriguing new fabric?

Call LExington 2-3520!

Bemberg®
ARISTOCRAT OF RAYON YARN

Cupioni® rayon is a product of American Bemberg • Main Office: 261 Fifth Avenue, New York 16, New York • Plant: Elizabethton, Tennessee.

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NO

MORE

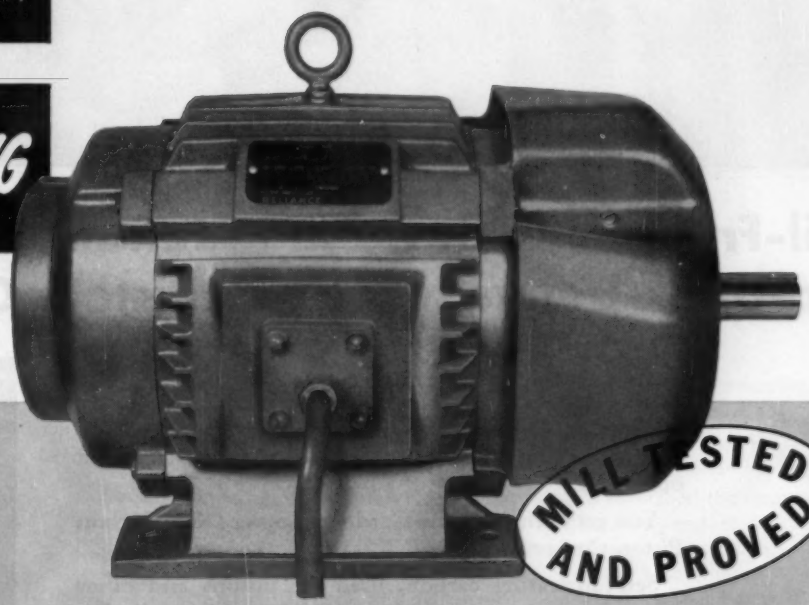
MOTOR

CLEANING

The *new* Reliance Lint-Proof Textile Motor is totally enclosed, positively eliminating lint-clogging. Lint-filled air cannot penetrate the sealed motor housing, and the high velocity cooling fan blasts lint off the outside of the motor.

It will pay you to try these new textile motors and see how they cut operating costs by eliminating motor cleaning.

Now available—1-20 hp. general purpose, air-cooled textile motor for application on spinning, roving, drawing, and twisting frames . . . and on cards, openers, pickers, and other textile machines. B-1508



MILL TESTED AND PROVED

IT'S LINT-PROOF

RELIANCE Totally-Protected MOTORS

RELIANCE ELECTRIC AND ENGINEERING CO.

Cleveland 10, Ohio • Offices in Principal Cities

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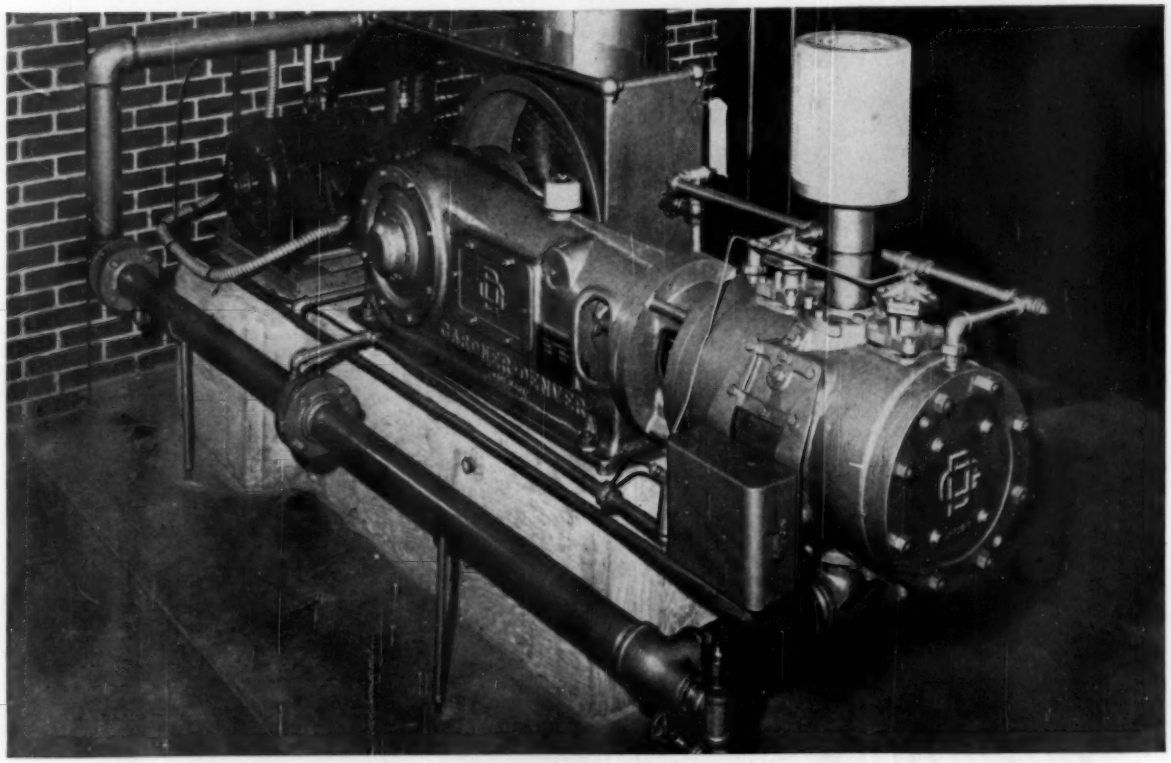
Gardner Denver . . . Serving the World's Basic Industries

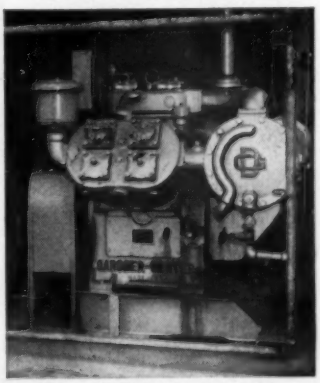


Oil-Free air with no maintenance penalty . . . Gardner-Denver Carbon Piston Compressors

Pure, oil-free air that's safe for textiles, plastics, foods, beverages, automation instruments. Low-cost air that's economical for maintenance tools and regular plant operation.

You get *both* from the Gardner-Denver CRX Carbon Piston Compressor.

Self-lubricating carbon, used for pistons and other parts, does away with any need for oil in the cylinder. Yet, user reports show that cost per cubic foot of air compressed by the CRX matches usual compressed air costs. There's no maintenance penalty—no need for two separate compressed air systems in your plant. Send for Bulletin CRC-10 today.



Another popular industrial compressor . . . the compact, efficient Gardner-Denver WB.

GARDNER - DENVER

THE QUALITY LEADER IN COMPRESSORS, PUMPS, ROCK DRILLS AND AIR TOOLS FOR CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY

Gardner-Denver Company, Quincy, Illinois
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Atlanta, Ga.; Birmingham, Ala.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.; Louisville, Ky.

Laboratory Mysteries

INTO

INDUSTRY'S MIRACLES

Here's an Example . . .

A Sonoco customer was having difficulty with the cone absorbing oil from the yarn. This made the yarn, next to the cone, brittle and stiff and hard to work. Sonoco was asked to make a cone with an oil barrier to prevent this condition.

After exhaustive research and tests, Sonoco furnished the customer with a special Unitex surfaced cone. The customer reported, "This cone completely eliminates the oil absorption problem. An oil extraction, from yarn that was aged on these cones, shows that there is no deficiency of oil in the yarn that lies next to the cone . . . at 1000 yards per minute, this yarn shows no tendency to slough off at this speed."

If you have a textile carrier problem, your Sonoco sales-engineer would welcome the opportunity to discuss it with you.

SONOCO PRODUCTS COMPANY

MAIN OFFICE — HARTSVILLE, S. C.

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RIDES THE WORLD
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DEPENDABLE SOURCE OF SUPPLY

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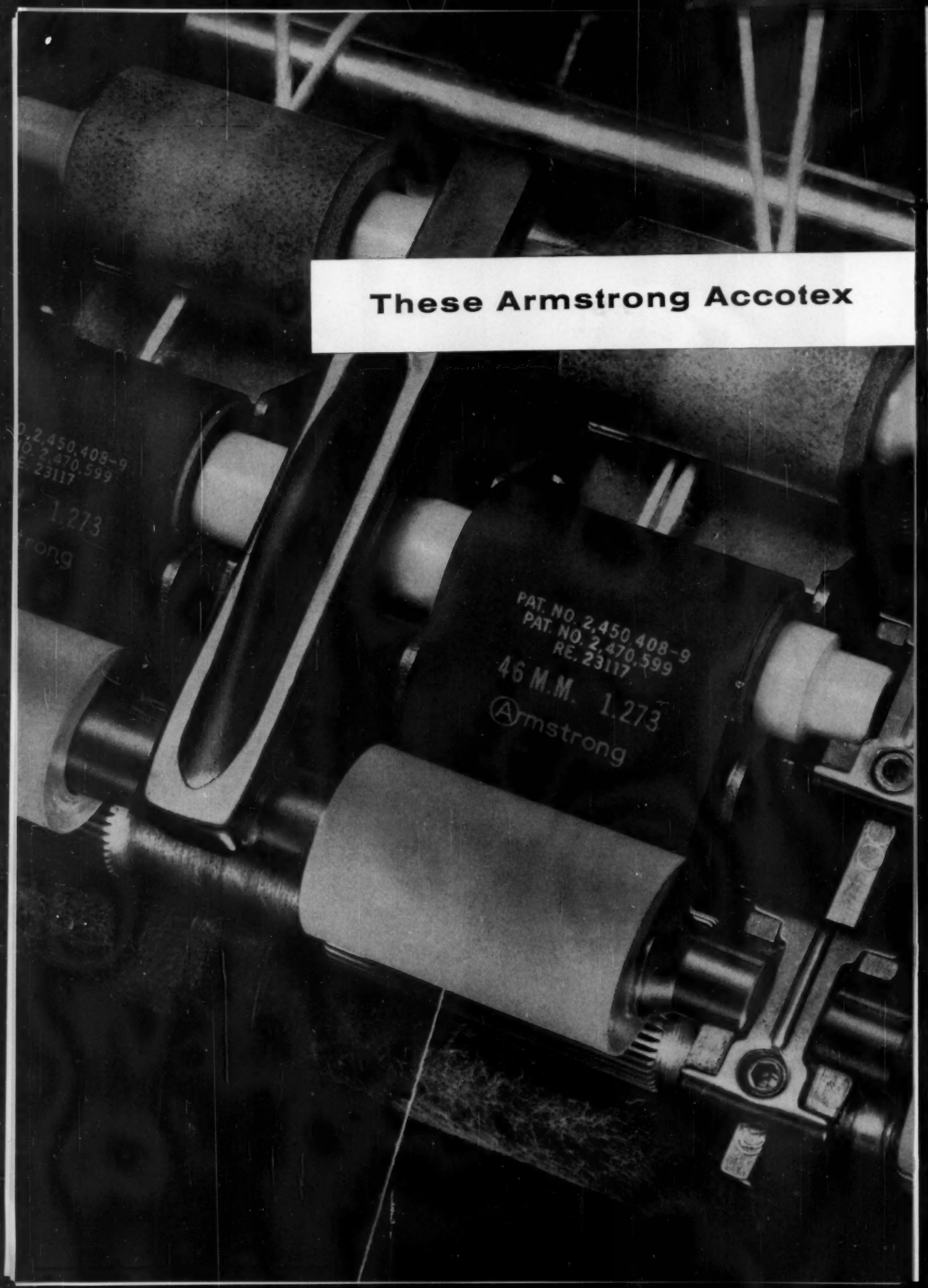

These Armstrong Accotex
PAT. NO. 2,450,408-9
PAT. NO. 2,470,599
RE. 23117
46 M.M. 1.273
Armstrong

Aprons are specially designed to give LONG, DEPENDABLE SERVICE ON MODERN HIGH-DRAFT FRAMES

The higher drafts and faster speeds on modern spinning frames make it more important than ever that aprons have the best possible abrasion resistance.

Many mills are getting up to six full years of continuous, trouble-free spinning with Armstrong Accotex® Aprons. In some cases, these aprons have spun top-quality yarn even longer.

This long service life makes possible the obvious savings that result from fewer apron changes. But in addition, the same qualities that give Accotex Aprons their long life also help to maintain good yarn control and reduce yarn irregularities.

Apron performance like this doesn't just happen. It's the result of rigorous testing and evaluation of the synthetic rubber compounds used in Armstrong Aprons.

One such test is run on the Armstrong-designed abrader, which is described below. Additional tests are used to make sure that the rubber compounds have the necessary resistance to oils, solvents, and ozone . . . and that they have optimum strength and flexibility.

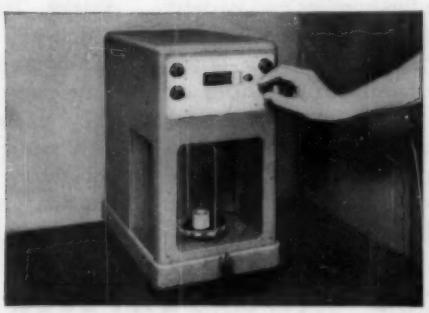
If you're not already using Accotex Aprons, ask your Armstrong man to arrange for a test frame next time he calls. You'll find there's an Accotex Apron specifically designed for your needs . . . no matter what you're spinning, no matter what type of equipment you're using.

For more information, write for your copy of our catalog, "Armstrong Textile Products." Address Armstrong Cork Company, Industrial Division, 6402 Dauphin Street, Lancaster, Pennsylvania.

Armstrong ACCOTEX APRONS

. . . used wherever performance counts

SYNTHETIC RUBBER SAMPLES get rough treatment on this Armstrong-designed abrader. Samples are rotated against a moving belt of sandpaper. A few hours on this machine is the equivalent of years of mill service.



AFTER A FEW HOURS ON THE ABRADER, Accotex Apron compounds are carefully weighed on a sensitive balance. Low volume loss shows ability to resist the wear often caused by higher drafts.

Many strange fibers are "meeting on the frames" today, as new developments continually increase the number and variety of synthetics and blends.

Controlling these new fibers and filaments in spinning or twisting can be tricky business. And you seldom have much time to experiment. Let Victor *experience* take the place of costly trial-and-error.

Victor "keeps a step ahead" by working with the producers during development of new synthetics. That's why, when they reach you for production, Victor is prepared to help you overcome any new processing problems they present.

When you need help to get top-quality and trouble-free production—with synthetics, blends, or natural fibers—call in a Victor Service Engineer. Write, wire, or phone the nearest Victor office for prompt service.

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . 20 Mathewson Street . . . . . Tel. DExter 1-0737

GASTONIA, N. C. . . 914-916 East Franklin Ave. . . Tel. UNiversity 5-0891

VICTOR Ring Travelers

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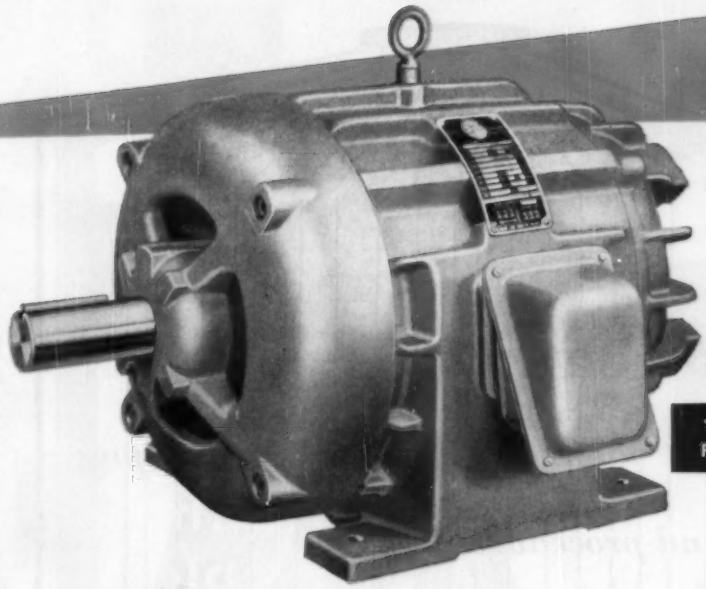

Type "DIL" Totally-Enclosed, Fan-Cooled Textile Mill Motor

new DIEHL streamlined design

Puts more features in less space

Here's a new textile mill motor which has the efficiency, performance characteristics and service factor of an open-type motor with the added advantages of totally-enclosed, fan-cooled construction . . . *yet it's no larger in size than a standard open-type motor* (*see Fig. A*).

Inside and out, the DIEHL Type "DIL" Motor is designed and built for top performance, maximum protection, long life, ease of installation and ease of maintenance in textile service. Note the heavy duty drive end bearing design, Fig. B, and the versatility in making lead connections, Fig. C.

The Type "DIL" Motor is adaptable to all types of textile machinery and, conforming to NEMA frame sizes and mounting dimensions, may readily be installed beneath spinning and twisting frames.

Write today for full details about this outstanding new development.

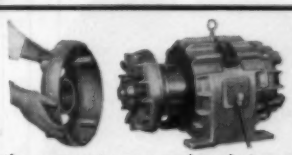

Fig. A

Note the compact space-saving design of fan blade and end-cover, the fan blade serving as part of the motor enclosure. Rotor is partially withdrawn to show the unitized construction of rotor and blade which assures maximum transfer of heat to the ventilating system.

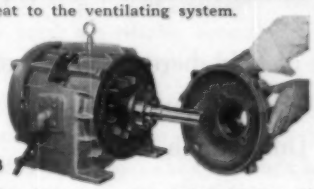

Fig. B

Another important new design feature which helps make this motor the outstanding choice for purchasers of textile mill motors is the locked-in, pre-lubricated heavy duty ball bearing, on the drive end, which assures maximum bearing life.

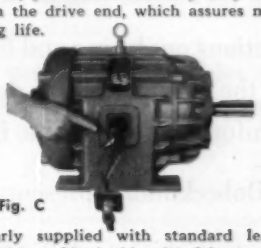

Fig. C

Regularly supplied with standard leads and terminal box. Obtainable with 5-foot type "ST" vinyl-covered cable, oil and watertight fittings, and knife-type disconnectors on the motor terminal leads for convenience in servicing, at slight additional cost.

DIEHL MANUFACTURING COMPANY
Electrical Division of THE SINGER MANUFACTURING COMPANY
Finderne Plant, SOMERVILLE, N. J.

Diehl

☐ *Please send me* Textile Bulletin No. TW 3526
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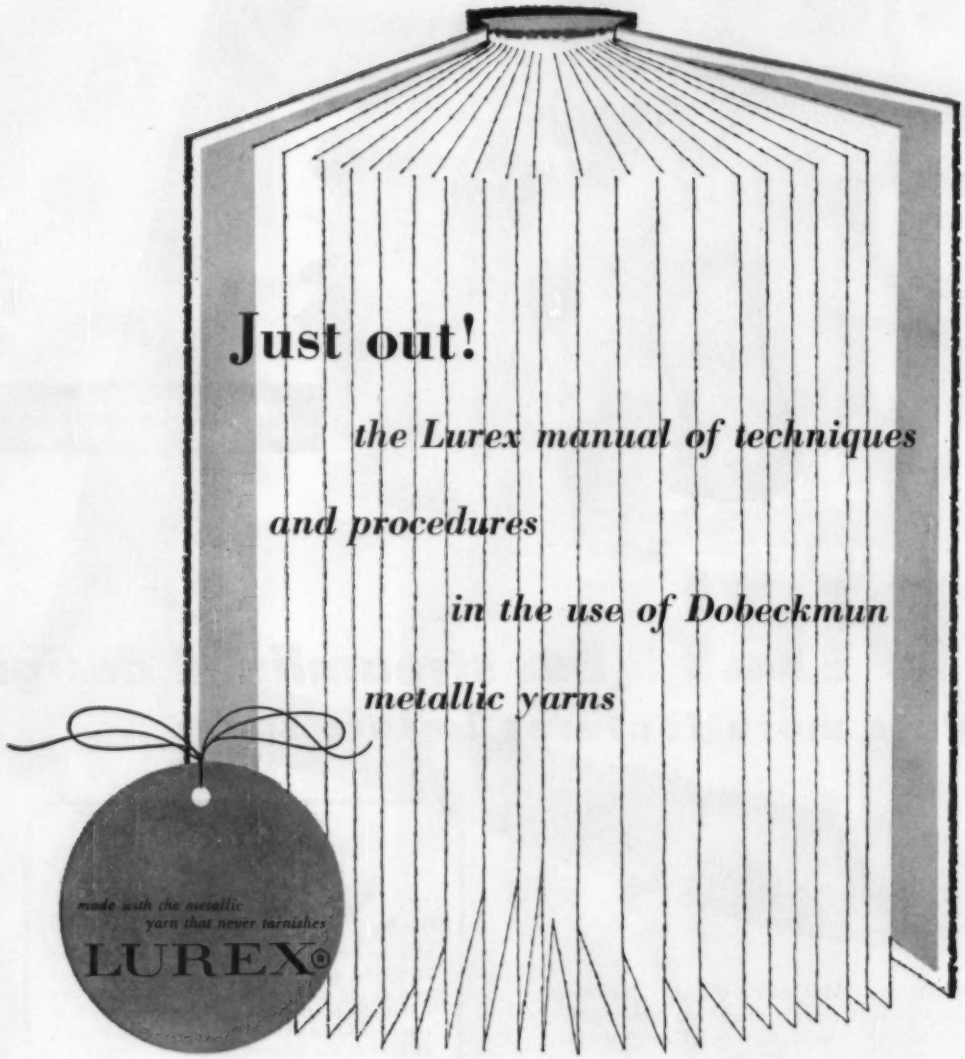

First in its field, here is the authoritative technical manual that has been long and greatly needed in the textile industry. It was prepared under the direction of Leon Seidel, Technical Representative of The Dobeckmun Company.

This manual covers every phase of operation involving the use of metallic yarns: their properties, twisting techniques, winding, warping, quilling, weaving... and there's more to come.

Special sections on dyeing and finishing are in preparation and new material will be forwarded to owners of the manual as it is developed. Thus, it will be at all times the most up-to-the-minute source of information available in the field.

Ask your Dobeckmun representative how you can obtain this valuable book.

Lurex, non-tarnishing metallic yarn made only by

The Dobeckmun Company** · **Cleveland 1, Ohio** · **New York: 350 Fifth Avenue** · **London** . **Amsterdam
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Manufacturing Affiliates in Canada: Wm. B. Stewart & Sons Ltd., Toronto and Montreal

this *priceless* "First Edition" is free!

A shade card is a costly reference book that you use every day. It may summarize the results of more than 25,000 individual tests. Often it contains swatches of more hues than many dyehouses do in a year!

If you had to compile the detailed data yourself the cost would be prohibitive. But, fortunately, first-line dye manufacturers provide the needed information as an essential customer service. It's an important part of value-received that never appears on your invoice!

National shade cards are the most complete in the industry, often going beyond AATCC standards to furnish extra detail. Inserts are published to keep them up-to-date. And National shade cards are reliably accurate in evaluating the dyes objectively. You can rely upon them as a guide in your use of National Dyes.

These elaborate shade cards reflect the conviction that our responsibility extends beyond the simple exchange of dyestuffs for dollars! When price-differentials exist, it is often because the low-price supplier delivers less in product and service combined.

To be sure of getting full value every time, it's good business to do business with National.

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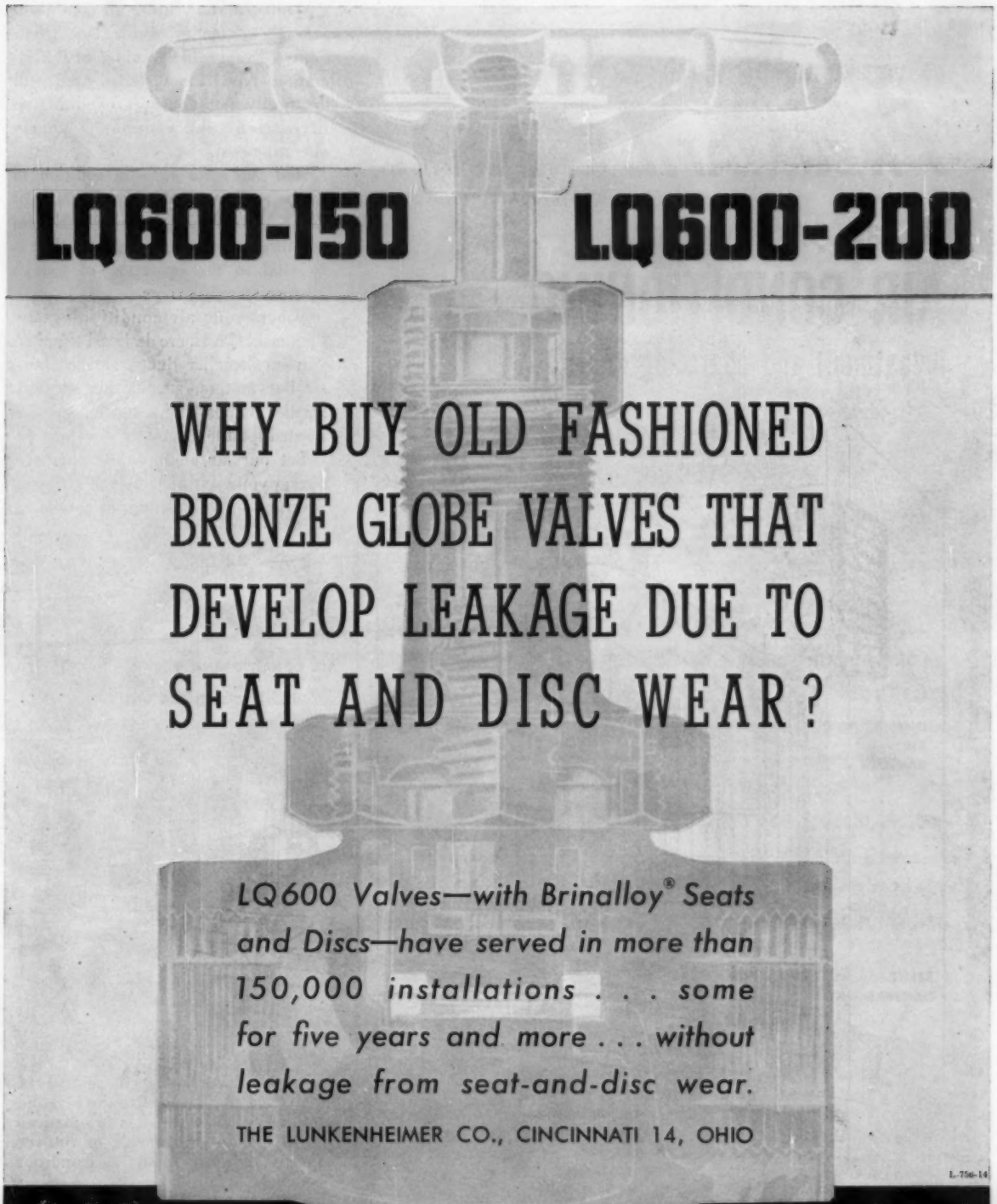

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THE ONE *Great* NAME IN VALVES

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do you know how much

PNEUMAFIL® C.A.H.*

(CENTRAL AIR HANDLING)

can save you on your initial

AIR CONDITIONING

investment and operating costs . . .

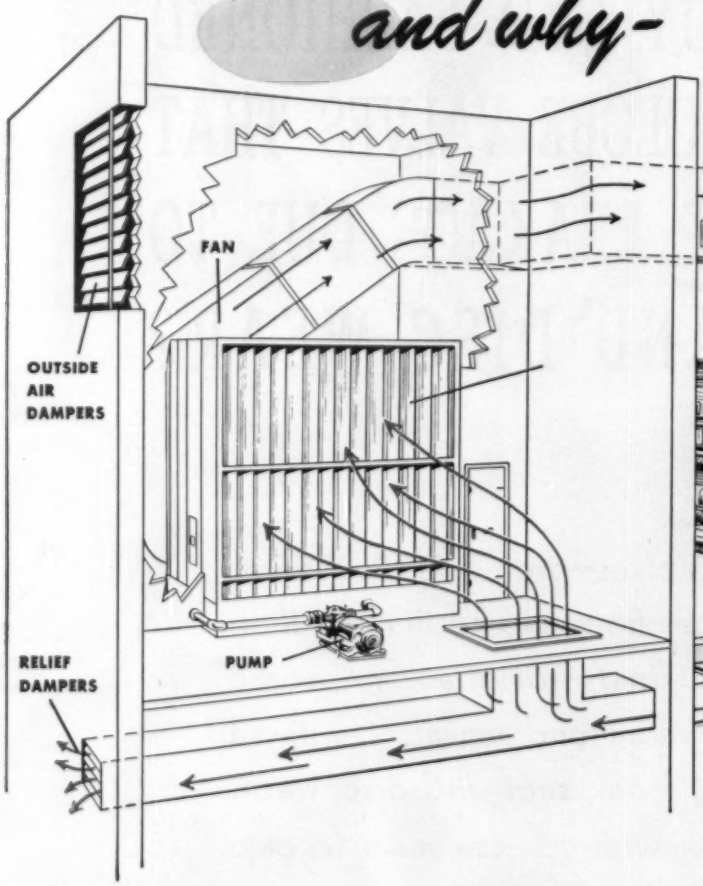
and why—

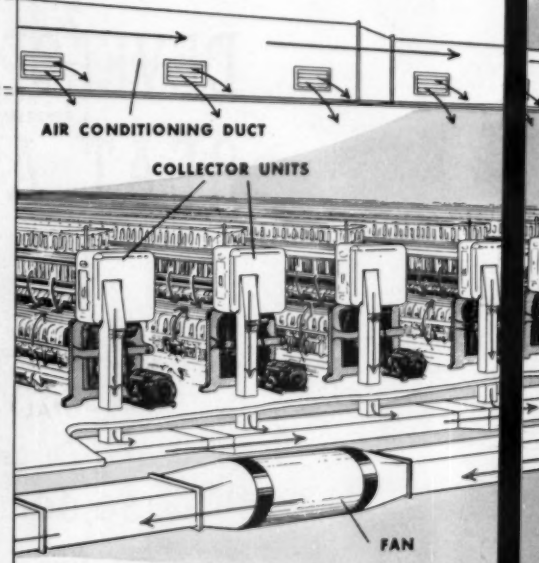
WHETHER your future air conditioning system is of the Dry Duct, Central Evaporative Cooling, or Refrigeration type, Pneumafil C.A.H. will drastically cut your air conditioning investment and reduce its yearly operating cost.

And that's not all!—In addition to these savings, only the Pneumafil C.A.H. system can give you ideal temperature and humidity control that is so vital in the operation of today's modern spinning room.

When your air conditioning and Pneumafil C.A.H. are designed together, you buy smaller ducts, smaller fans, smaller motors, smaller air washers, smaller pumps, and a smaller space is needed for the apparatus housing.

Let our air conditioning engineers survey your mill and help you with your planning—no obligation, of course.





Heat is picked up at its source and conveyed (red arrows) to the air conditioning system where it is automatically exhausted to the outside or returned to the spinning room as conditions demand.

We are currently converting Pneumafil Unit System (individual motor and fan on each frame) to Pneumafil C.A.H. If you now have unit type, you should consider this conversion.

PNEUMAFIL CORPORATION

CHARLOTTE 8, NORTH CAROLINA

Sales Offices:

Atlanta, Ga.

Needham Heights, Mass.

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PNEUMAFIL®

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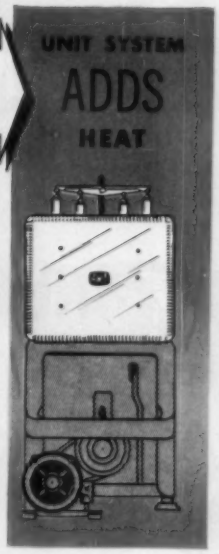
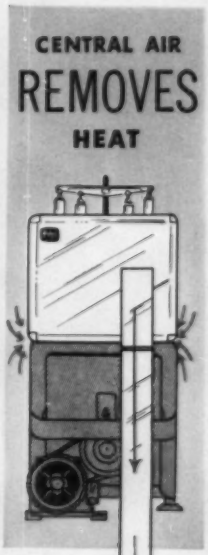
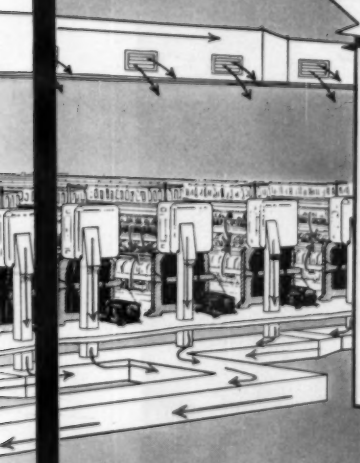
HERE'S WHY YOU SAVE MONEY WITH PNEUMAFIL C.A.H.

THIS IS HOW MUCH MONEY YOU SAVE ON YOUR AIR CONDITIONING...





TO AIR CONDITIONER



FIGURES REPRESENT DOLLAR SAVINGS		HORSEPOWER PER SPINNING FRAME 5 hp	7.5 hp	10 hp	15 hp	20 hp
WHEN YOU BUY IT	DRY DUCT SYSTEM	9,600	11,700	13,650	17,250	21,300
	CEN. EVAP. COOLING	12,800	15,600	18,200	23,000	28,400
WHEN YOU OPERATE IT FOR 10 YEARS	DRY DUCT SYSTEM	3,420	4,164	4,680	6,200	7,600
	CEN. EVAP. COOLING	5,392	6,560	7,360	9,800	12,000
TOTAL	DRY DUCT SYSTEM	13,020	15,864	18,330	23,450	28,900
	CEN. EVAP. COOLING	18,192	22,160	25,560	32,800	40,400

BASED ON 100 FRAME SPINNING ROOM

REFRIGERATION TYPE SYSTEM
Refrigeration savings (not shown on chart) are even greater than those above. These savings are so variable, an average would be misleading.

HERE'S WHERE YOU SAVE MONEY

OPERATING COST

MOTORS DUCTWORK FANS AIR WASHER PUMPS & PIPING

WITH CENTRAL AIR HANDLING

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Here's why MODERN BLENDS call for MODERN AVISCO RAYON with MODERN FINISHING

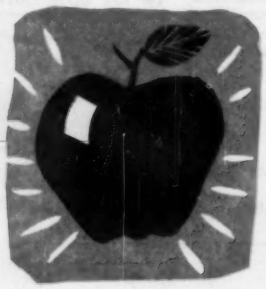
luxurious hand

improved drape

affinity for color

absorbency

comfort



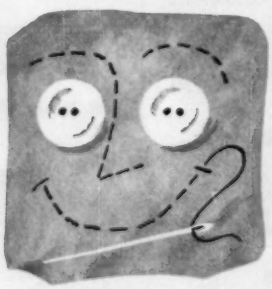
luster

cross-dyeing style potential

less need for glazing

moth resistance

static resistance



superb tailorability

price stability

Great new things have been happening to the oldest man-made fiber. In American Viscose rayon research labs—the world's largest—the rayon fiber has been made stronger and more versatile.

Thus it is more useful to you and more desirable to the consumer.

The versatility of this modern Avisco rayon fiber has been further enhanced by modern finishing. In blends with other man-made or natural fibers, it brings all the above fine qualities and many more.

Add the Avisco Integrity Tag to apparel at point of sale and the public knows that quality and performance are assured. For more details, call or write American Viscose Corp., 350 Fifth Ave., New York 1, N. Y.

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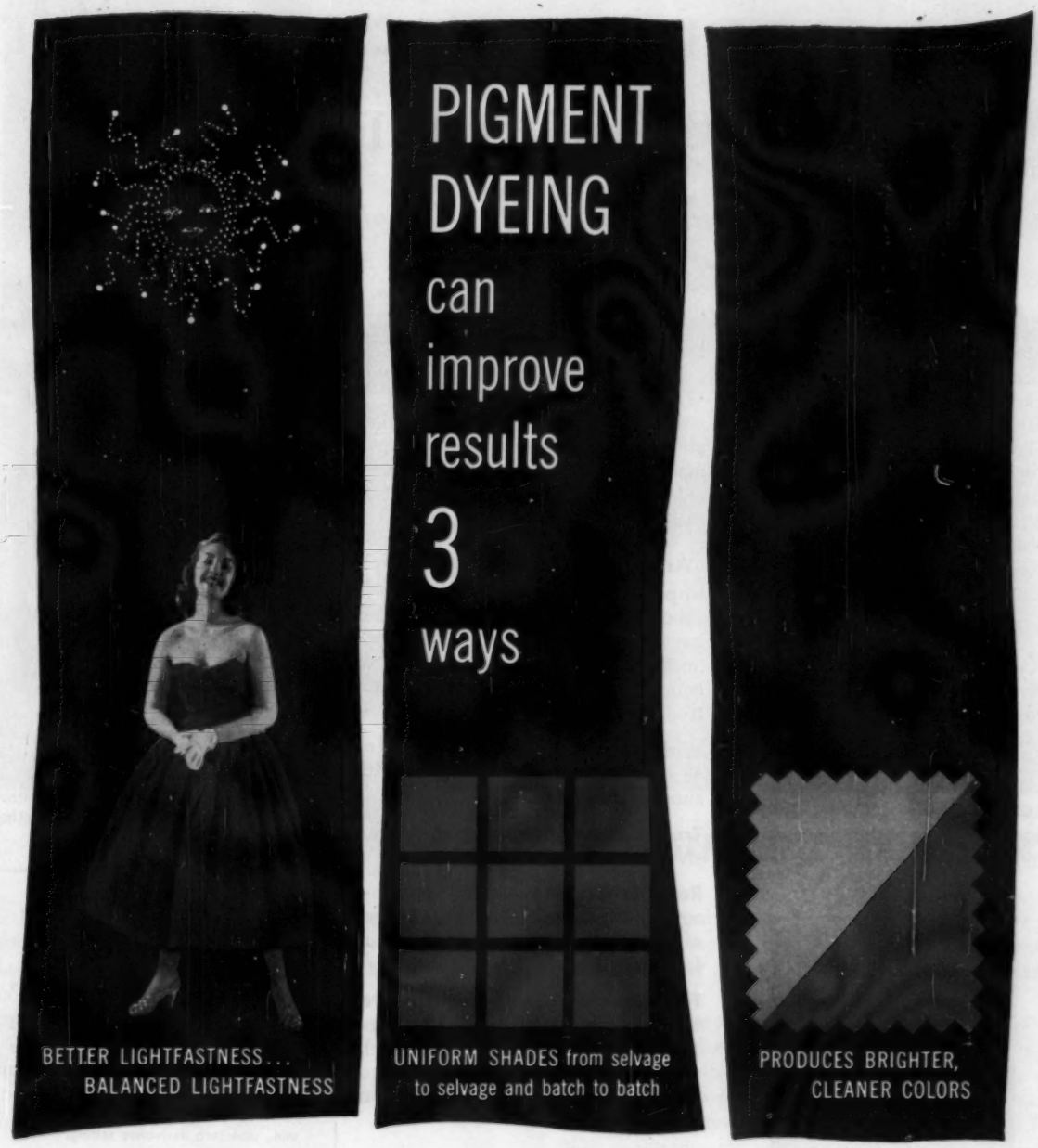

Tired of writing off color variations, rejects and returns? Looking for an extra edge in sales appeal to spark demand? Pigment dyeing with SHERDYE® Padding Colors can often solve both problems. Pigment dyeing offers three important ways to improve output:

LIGHT-FASTNESS can be balanced throughout an entire line of colors by selective use of pigment and other dyes. Pigment colors provide superior light-fastness in most wanted light colors.

UNIFORM SHADES can be obtained with pigment colors from beginning to end of run. Concentration does not become depleted as bath materials are used.

BRIGHTER SHADES obtainable with pigment colors meet consumer preferences for lighter, brighter, sunfast colors.

Find out what more and better use of SHERDYE Padding Colors can offer in your operations. Contact The Sherwin-Williams Co., Pigment, Color and Chemical Division. 260 Madison Ave., New York 16, New York.

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PADDING COLORS

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Simplest pneumatic controller to use and maintain

Bristol gives you improved stability of control action —but keeps basic simplicity of Series 500 Controllers

Bristol Series 500 Pneumatic Controllers are the easiest controllers on the market to use and maintain—still the most dependable and trouble-free.

The reason? The basic simplicity of the operating mechanism. *That* hasn't changed in the years since we introduced this long-time favorite among instrument men. Reason No. 2: they are equipped with famous Bristol measuring elements.

Easy calibration

It's this foolproof simplicity of the control system that makes calibration so easy on Series 500 controllers. *Only one* service adjustment is required and provided to exactly calibrate the control system. The control system can be completely disassembled and after reassembly (even with replacement of parts) can be restored to precise calibration with this *one* adjustment.

No special tools are required. A ¼-inch wrench is all that's needed.

The 500's completely interchangeable parts, accurately designed and manufactured to extremely close tolerances, make possible this built-in calibration.

And check these features:

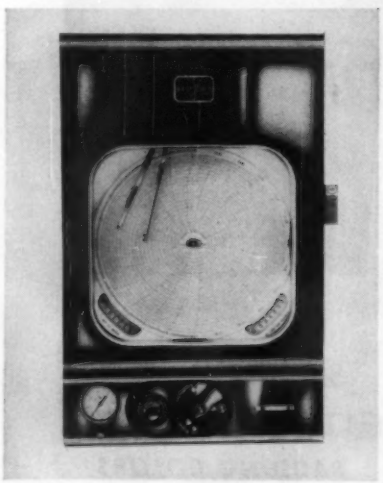
Improved control stability—advanced automatic control techniques have been applied by Bristol engineers to improve stability of control action in the new Series 500W Controllers.

Wide-band models offer choice of ½ to 400% proportional band with simple band shift.

True zero derivative setting—exclusive with Bristol.

Reset action stops in reset models—again a Bristol exclusive—prevent loss of control due to prolonged deviation from set point.

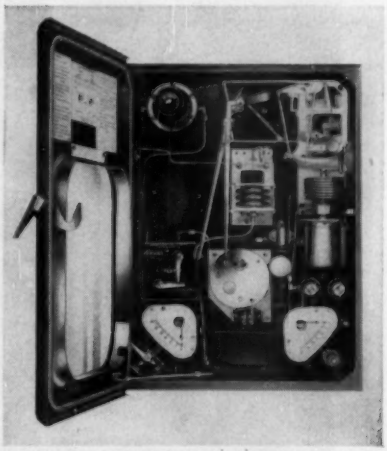
Four-position internal transfer station with automatic, manual, test, and service positions, plus pressure-matching button and manual pressure regulator, for maximum convenience in process control.



BRISTOL'S® SERIES 500 CONTROLLER, shown here with four-position transfer station. Internal station also available.

Complete data available

Write today for engineering data on Bristol's Series 500 controllers for your critical control problems. They're available for *automatic control of temperature, pressure, vacuum, draft, absolute pressure, liquid level, humidity, pH value, electrical measurements, and mechanical motion.* The Bristol Company, 103 Bristol Road, Waterbury 20, Conn.



FOUR-POSITION INTERNAL TRANSFER STATION shown here in interior view of Series 500 Controller. Permits remote manual control, testing and servicing without disconnecting instrument.

YOU CAN GET THESE CONTROL MODES:

1. **Fixed narrow band** (on-off)
2. **Proportional band**—½ to 100% and ½ to 30%.
3. **Reset with wide band**—rates 0.1 to 10 or 1 to 300 repeats per minute. Proportional band ½ to 400%.
4. **Derivative (rate)**—½ to 100% proportional band. Derivative time 0.2 to 20 min., plus zero derivative setting.
5. **Reset plus derivative**—proportional band and reset rate as in "reset" above. Derivative time as in "derivative" above.

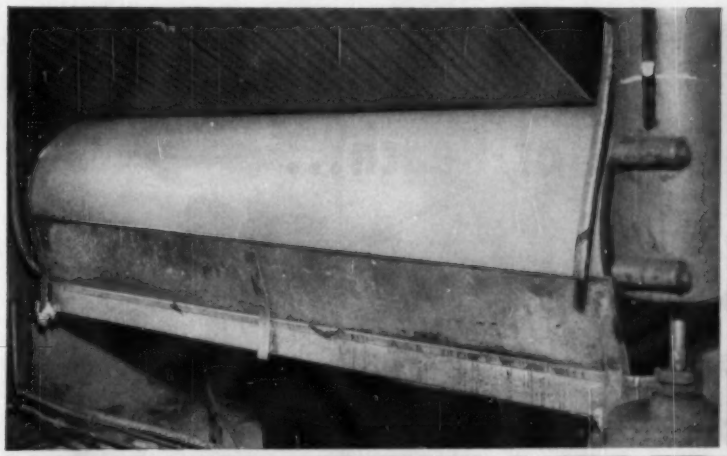
YOU CAN HANDLE THESE CONTROL PROBLEMS:

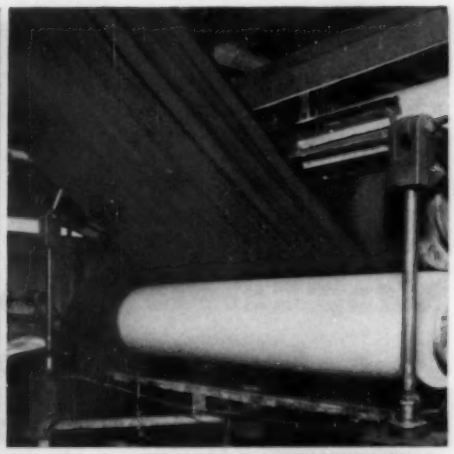
1. Cascaded control 2. Selective control 3. Ratio control 4. Time-program control 5. Pneumatic transmission.

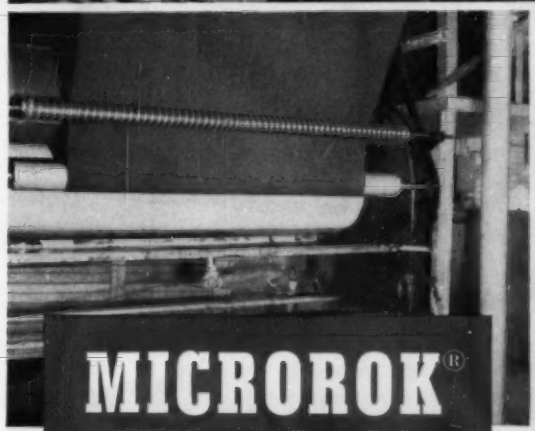
6.55

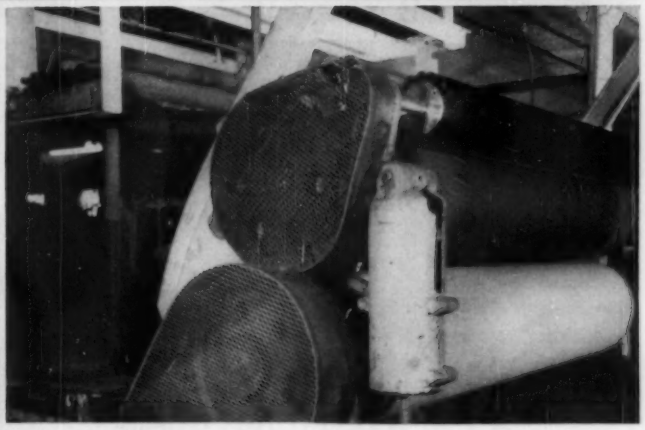
BRISTOL *TRAIL-BLAZERS IN PROCESS AUTOMATION*

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS









MICROROK®

...cuts bottom roll maintenance

Frequently, the cost of removing bottom squeeze rolls exceeds the cost of their grinding or recovering. Loss of production and, in some cases, the expense of hiring riggers to handle these heavy, hard-to-get-at rolls, are profit-stealing problems.

Microrok is compounded and built to last longer. The first Microrok roll installed in a textile mill has been in continuous operation for over four years. Removed from its carbonizer unit for inspection only once two years ago, it showed less than .001" loss of crown. It was reinstalled and has been running continuously since.

Other Microrok rolls are being used as padder, mangle, squeeze and washer rolls, with equally successful results.

Ask your Stowe-Woodward Sales Engineer about Microrok, or write today for your copy of "MICROROK — the miracle roll covering," Bulletin 504.

"RUBBER ROLLS with a REPUTATION"

S-W INC.

STOWE-WOODWARD, Inc.

Craftsmen in rubber rolls

NEENAH, WISCONSIN • NEWTON 64, MASS. • GRIFFIN, GEORGIA

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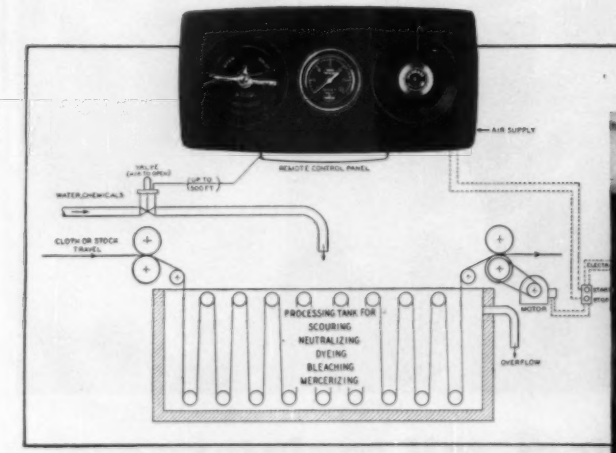
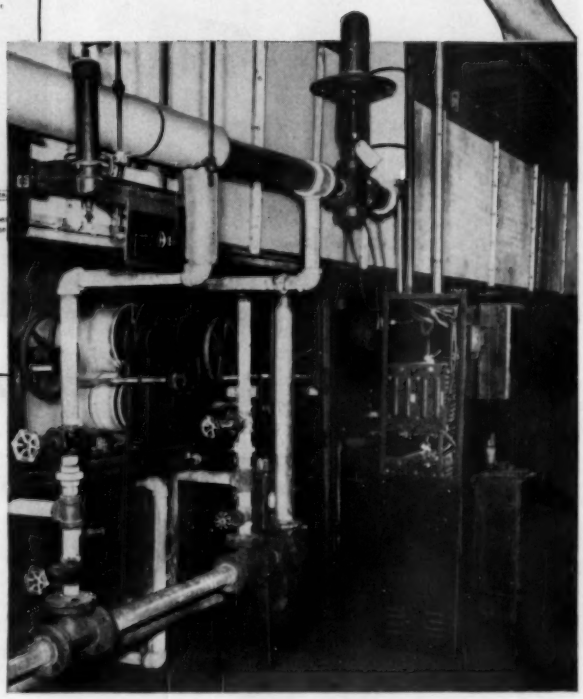
When Supply Valves Are **"Out of Reach"...**

Stop Careless Processing... Install Foxboro Remote Valve Controls





Washing section of mercerizing range (right) in large southern bleachery showing Foxboro Remote Valve Control Panel (left center) and water control valve (upper right). The diagram above shows a typical hook-up. Selector switch on panel permits automatic cut-off, manual cut-off, or manual valve positioning.

Processing supply valves are often inconveniently located, and therefore neglected, causing non-uniform treatment of cloth . . . and waste of fluids. Foxboro Remote Valve Controls eliminate such problems . . . provide effortless valve adjustment right at the operator's station. Small control panel may be located as far as 500 feet from the valve. In addition, this control system automatically shuts supply valve if process drive motor stops running . . . saves fluids that are otherwise wasted.

Get full details on this efficient, convenient Foxboro Control System. . . . Write for Application Engineering Data Sheet 220-1. The Foxboro Company, 842 Neponset Avenue, Foxboro, Massachusetts, U.S.A.

FOXBORO
REG. U. S. PAT. OFF.

REMOTE VALVE CONTROL SYSTEM

FACTORIES IN THE UNITED STATES, CANADA, AND ENGLAND

LUSTRE

that lives... for the life of the fabric!

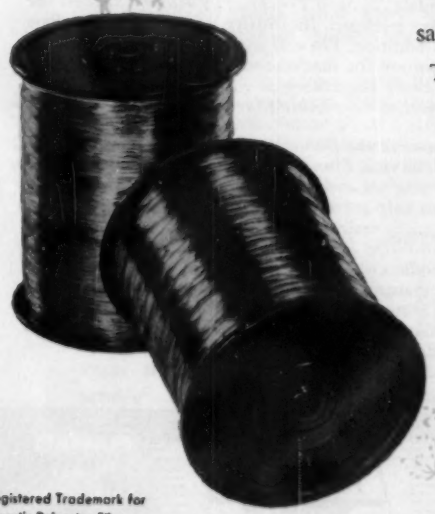
GLITTERING FAIRTEX® YARNS with Metallized Mylar*

FAIRTEX Yarns with Metallized Mylar* never lose their glittering glamour . . . and outlast even the fabric itself!

Specifically developed for use in automotive fabrics, upholstery and drapery materials, mattress ticking, and hosiery, FAIRTEX Yarns with Metallized Mylar* are highly heat resistant, can be safely washed, drycleaned or scoured and do not tarnish.

There's no flaking or breaking of metal when you weave or knit with FAIRTEX.

For economy and efficiency, start using FAIRTEX Yarns with Metallized Mylar* *now* with cotton, wool, silk, linen or synthetics. You get greater yield per pound with smoother, more pliable and more uniform FAIRTEX Yarns.



*Registered Trademark for Dupont's Polyester Film

...lustre that lives... for the life of the fabric!

FAIRTEX® YARNS

Metallized Mylar* • Metallic • Supported Metallic

FAIRTEX CORPORATION—CHARLOTTE, N. C.

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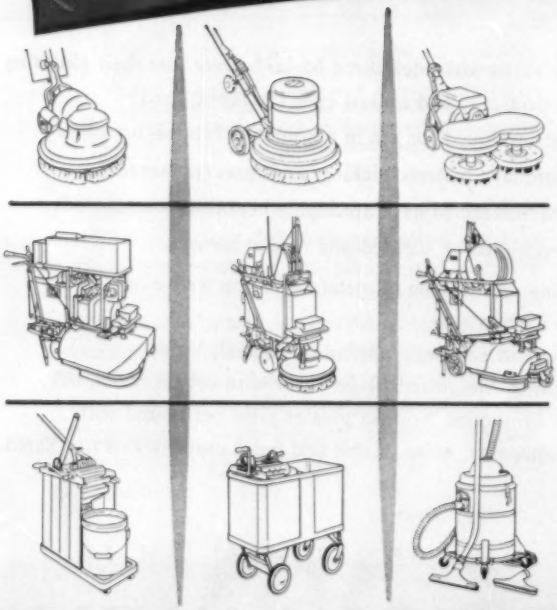
Keep your floor-maintenance men happy . . .

with *Job-Fitted* EQUIPMENT!

Choose from the COMPLETE *Finnell* Line

More than a score of models and sizes permits selection of the equipment that's exactly right for your job!



However much a maintenance man may want to do a good job, and at the same time show savings in labor costs, he's *stymied* if the machine is too small, or too large, or is otherwise unsuited to the job. Different floors and areas call for different care and equipment. That's why *Finnell makes more than a score of floor-maintenance machines.* From this complete line, it is possible to choose equipment that is correct in size as well as model . . . that provides the maximum brush coverage consistent with the area and arrangement of the floors.

Finnell makes *Conventional Polishing-Scrubbing Machines* in both concentrated and divided-weight types, each in a full range of sizes . . . a *Dry-Scrubber,* with self-sharpening brushes, for cleaning grease-caked floors . . . *Combination Scrubber-Vac Machines* for small, vast, and intermediate operations, including self-powered as well as electric models . . . *Mop Trucks* . . . *Vacuum Cleaners* for wet and dry pick-up, including a model with By-Pass Motor. In addition, *Finnell* makes a full line of fast-acting *Cleansers* for machine-scrubbing . . . *Sealers* and *Waxes* of every requisite type . . . *Steel-Wool Pads,* and other accessories—*everything for floor care!*

In keeping with the *Finnell* policy of rendering an individualized service, *Finnell maintains a nation-wide staff of floor specialists and engineers. There's a Finnell man near you* to help solve your particular floor-maintenance problems . . . to train your operators in the proper use of *Finnell Job-Fitted Equipment and Supplies* . . . and to make periodic check-ups. For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1902 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES

← For more data, write this page number on Reader-Service card.

Hemphill Chooses Franklin Process Colored Yarns

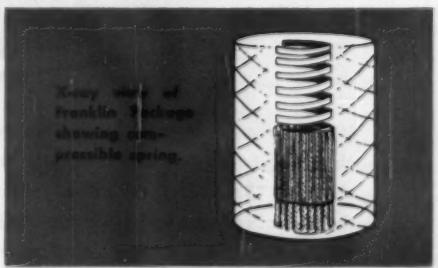
Hemphill Company (Pawtucket, R. I.), manufacturers of famous Banner hosiery knitting machines, believe that the best way to sell their products is to show samples of the hosiery which their machines produce.

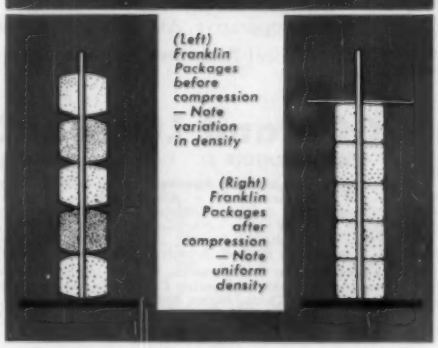
Since they take great pride in the quality of their machines, they naturally want the products of their machines to *express* quality—quality in yarns and quality in colors.

Therefore they use Franklin Process Colored Yarns in their samples and here's what they get:

1. **SMOOTH RUNNING YARNS** — specially made for knitting and properly conditioned and wound to deliver without excessive breakage or nipping.
2. **EVEN, BRILLIANT COLORS.** The Franklin Process of dyeing packages wound on compressible spiral springs assures uniform and complete penetration of the dye liquor to all parts of the package (see diagram).

Quality yarns and quality colors are only two of many advantages of using Franklin Process Yarn and Yarn Dyeing Service. This service is "conveniently yours" from one or all of 5 strategically located dye plants. Our Color Newsletter, issued four times a year, is also yours for the asking. It gives authoritative information about coming fashions in color. Write for your copy to-day, if you are not already on our mailing list.




(Left) Franklin Packages before compression — Note variation in density
(Right) Franklin Packages after compression — Note uniform density

Franklin Process

YARN MERCHANTS AND LARGEST PACKAGE DYERS IN THE WORLD — DYEING EXCLUSIVELY ON THE FRANKLIN SPRING

PROVIDENCE • PHILADELPHIA • GREENVILLE • CHATTANOOGA
FINGERVILLE, S. C.

New York Representative — 40 Worth Street

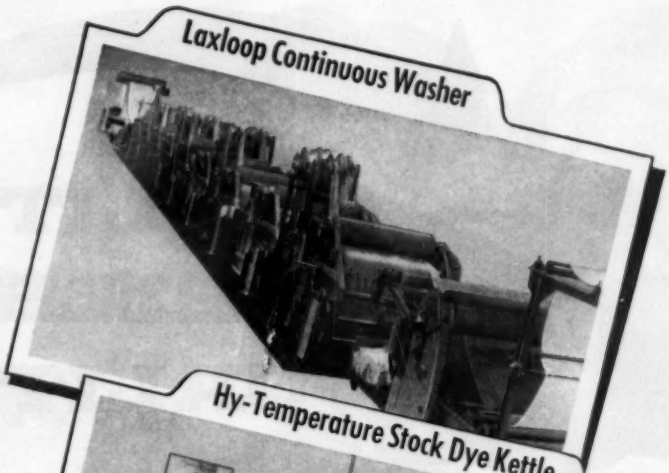
For more data, write this page number on Reader-Service card. →

The Fleet Line

A COMPLETE LINE OF

MODERN EQUIPMENT

to handle successfully present-day Finishing, Carbonizing and Dyeing Requirements



Call in a Fleet Line "Engineers' Engineer"

If you have a problem, if your requirements have changed, if you want a new installation — consult an R&L "Engineers' Engineer". Bring us in at the planning stage for maximum efficiency — and we'll stand by all the way, until your installation is fully operative. Ask about performance records of practical R&L installations.

TYPES OF EQUIPMENT

BLEACHING EQUIPMENT
- Caustic Washers
- Progressive Jigs
- Kettles
- Tanks

CARBONIZING
- Cloth Carbonizing Ranges

CLEANERS
- Derby Continuous Dry Cleaners

COMPACTING MACHINES

CRUSHERS
- Continuous
- Semi-continuous

DYEING EQUIPMENT
- Dye Becks
- Dye Kettles
  - Piece Dye Kettles
  - Rug Dye Kettles
  - Sample Dye Kettles
  - Stock Dye Kettles
    - Standard
    - Hy-Temperature
- Top Dyeing Machines

DRYERS
- Tenter

FULLING MILLS
- Cloth
- Endless Felt

LABORATORY MACHINES

PADDERS

PAILS

PARTS

POTEYES

PUSHER MILLS

REELS

ROLLS
- Miscellaneous
- Fulling Mill
  - Rubber Ring
  - Vulcanized Rubber
  - Wood Lagged

WASHER,
- Wood
- Rubber
- Stainless Steel

SHRINKPROOFING MACHINES

SOAPING
- Rope Soapers
- Soap Distributing Systems
- Soaping Machines, Rope
- Open Width

SPECIAL MACHINES

SQUEEZE ROLL

EXTRACTORS

TANKS
- Miscellaneous
- Size Mixing
- Storage

TRUCKS
- Cloth
- Dye
- Pin

WASHERS
- Cloth Washers, (Batch & Continuous)
- Open Width
- Dolly
- Felt Washers, Endless

WRINGERS

YARN STEAMERS

RIGGS and LOMBARD Inc.

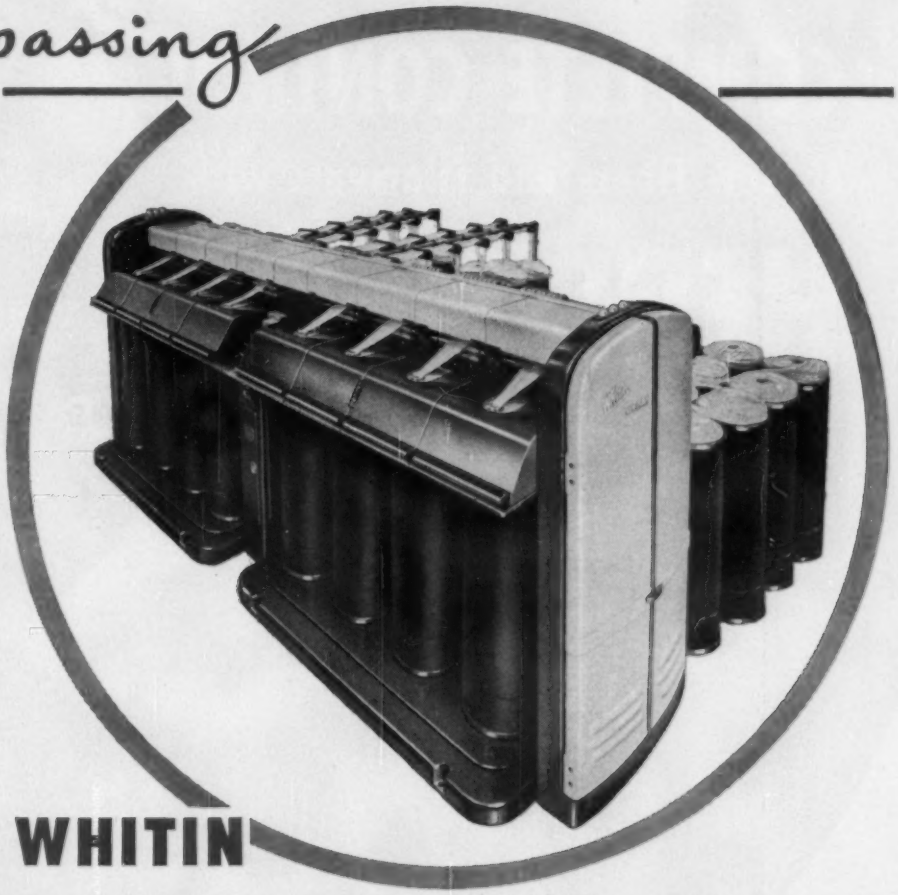
RIGGS and LOMBARD Inc.

FOOT OF SUFFOLK ST. • LOWELL, MASSACHUSETTS

Domestic & Canadian Agents: Paul A. Merriam Company, P.O. Box 86, Providence, R. I. • Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill. • Larry T. Nelson, 860 — 3rd St., Santa Monica, Calif. • F. W. Warrington Co., 611 Johnston Bldg., Charlotte, N. C. • A. Harold Zayotti, Jr., P.O. Box 125, Riverton, N. J. H. E. Mott Co., Limited, Brantford, Ontario, Canada.

Export Agents: Latin America, Europe, India, Pakistan, Turkey — Mechanical Works Engineering Co., 227 Fulton Street, New York 7, New York • China, Japan, Philippine Islands, Korea, East India — G. R. Coleman & Co., Inc., 50 Church St., New York, N. Y.

Surpassing all present-day standards of drawing . . . .the New WHITIN



EVEN-DRAFT* Drawing Frame

Seldom has any new textile machine had so pronounced an impact,—been so definitely successful — as the new Whitin Even-Draft Drawing Frame. In many large installations (up to 80 deliveries), mills report production doubled or tripled, sliver quality reaching levels formerly unattainable, and costs slashed to new lows. In short, all current standards for drawing have been completely surpassed by this new Whitin high production, precision-made textile machine.

● From 250-300 feet per minute Front Roll Delivery

Production two to three times more than conventional machines, depending upon mill conditions and production needs.

● For all fibers up to 3"

The first universal drawing frame — for cotton, spun synthetics and blends.

● Outstanding Sliver Quality

Improved uniformity in both carded and combed sliver — 6 or 8 ends up.

● Pneumafil Clearer Units

A brand new way of removing waste fibers. Developed for, and an integral part of, this machine.

● Entirely New Design

Two independent four-delivery heads, vibration proof construction; precision tolerances; anti-friction bearings; unique four over five roll drafting; new overarm weighting; no-twist can table; electronic stop motions and signal lights; 14" — 15" — 16" cans, 36" or 42" high.

*TRADE MARK

WHITIN MACHINE WORKS FOR 125 YEARS ONE COMPANY WITH ONE PURPOSE SERVICE TO THE TEXTILE INDUSTRY 1831–1956

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

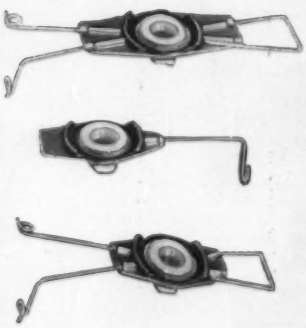
For more data, write this page number on Reader-Service card. →

COMPLETE CONTROL

of New Fibers and Filaments with

HERR

Special Conical Rings and Special Flyers



HERR Flyers produce light tensions at high speeds, perfectly balanced for accurate yarn control and reduced vibration.

There is a HERR Conical Ring for the spinning or twisting of any yarn.

Having problems with new fibers? Don't waste time experimenting. New physical characteristics of the fibers require changes in the processing equipment to attain best results. Call Herr for the best Conical Ring and Traveler combination to give you complete control of new fibers and filaments. Write for information today!

HERR Manufacturing Company, Inc.

309 Franklin St., Buffalo, N. Y.

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES

THIS NEW AUTOMATIC TENSION DEVICE*

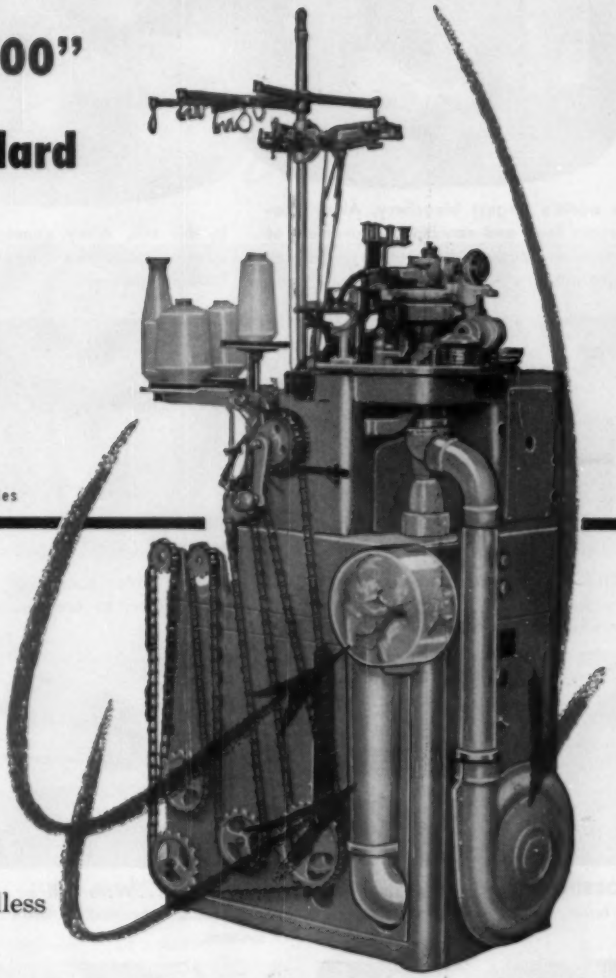
on the FIDELITY "400"

Sets the New Standard

in Seamfree

Stocking Quality!

*Patents Pending in United States and all Foreign Countries



Compare the unique features of the revolutionary new Fidelity Automatic Tension Device:

- Installation *does not* increase machine height!
- Completely air-operated—no mechanical arms or contrivances!
- Uniform tension is maintained regardless of knitting speed!
- Requires no resetting if machine is hand racked!
- Nylon retainer on transparent receptacle assures no-snag removal of stockings!
- Totally self-contained unit—easily installed without auxiliary air inlets!

Compare—then decide to meet the *new* standard of production quality *now,* with the superior new Fidelity Automatic Tension Device . . . designed for use with the electronically controlled Fidelity "400" and other makes of knitting machines. Write today for details . . . or visit our showrooms.

Designers and Builders of Intricate, Automatic Precision Machines

SINCE 1911

FIDELITY MACHINE COMPANY, INC.

3908-18 FRANKFORD AVENUE, PHILADELPHIA 24, PA.

EXPORT DEPT.: 25 BEAVER STREET, NEW YORK 4, N.Y.

SOUTHERN SALES OFFICE: 607 PROVIDENT BUILDING, CHATTANOOGA, TENNESSEE

For more data, write this page number on Reader-Service card. →

TEXTILE transfer

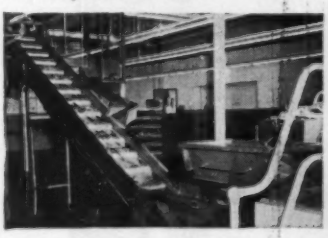
In world's largest bleachery, Alvey conveyors feed and coordinate movement of boxes and bales throughout sprawling 16-acre plant.

In this mill, Alvey conveyors coordinate speed of package movement with strapping station capacity.

Here the packing lines have spur branch lines on which cartons are packed before being dispatched to storage or shipping.

BOLTS... Wide smooth belts convey folded cloth, tied or untied, from inspection tables.

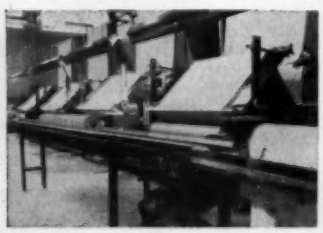
BALES... Heavy bales conveyed from one floor level to another.



BOBBINS... Conveyed on incline or horizontal to machinery units.

DOFF BOXES... With full or empty bobbins, conveyed on two-way systems.

CARTONS... Cartons of fabric follow scheduled movements, timed to top operational efficiency.



ROLLS... Conveniently mounted conveyor has polished side rails.

how ALVEY CONVEYORS coordinate materials handling inside textile mills

Profits go up, handling costs down, when you convey your textile materials and packages . . . by means of an ALVEY integrated conveyor system. Every step of your operation is analyzed, planned, and designed by textile-experienced Alvey engineers. They have increased production and cut costs for other textile mills, including those who thought it "couldn't be done." Like to talk it over? Call or write your nearest Alvey branch office.

ALVEY

259

ALVEY CONVEYOR MANUFACTURING COMPANY • 9306 Olive Street Road, St. Louis 24, Mo.

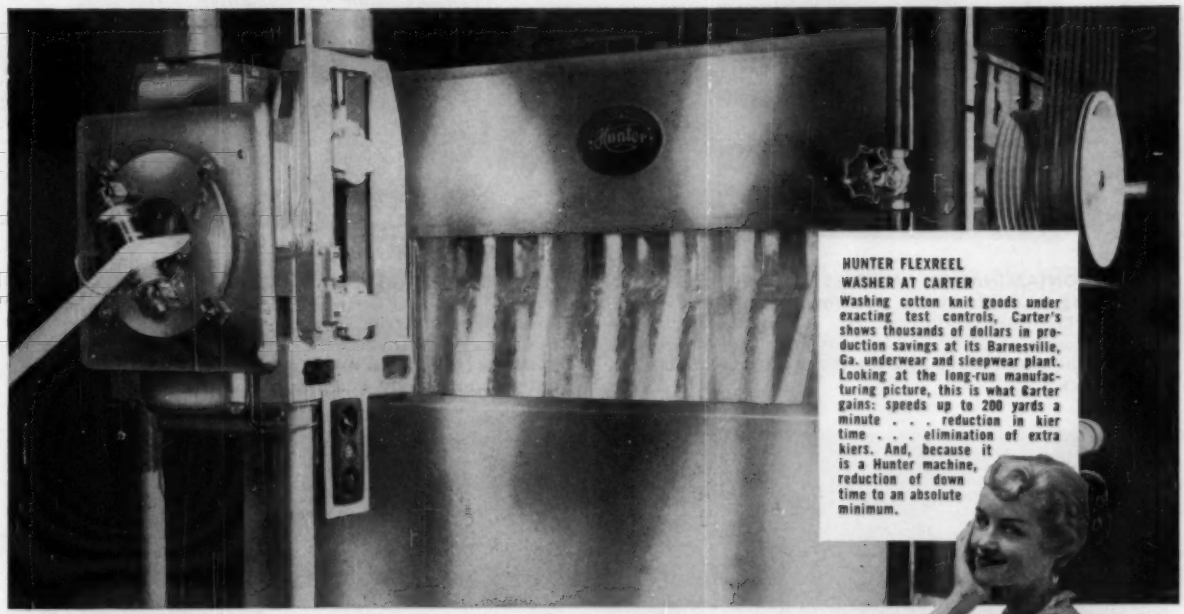
Room 206—Masonic Temple, Greenville, S. C. • No. 2 St. Albans Ave., Newtown Sq. (Philadelphia) Pa. • 816 Howard St., New Orleans, La.
271 Madison Ave., New York City • *and other principal cities throughout the United States.*

HUNTER FLEXREEL WASHER

WITH UNIQUE CLOTH TENSION CONTROL

PUTS PROFITS IN COTTON KNIT GOODS

WASHING AT... *Carter's*

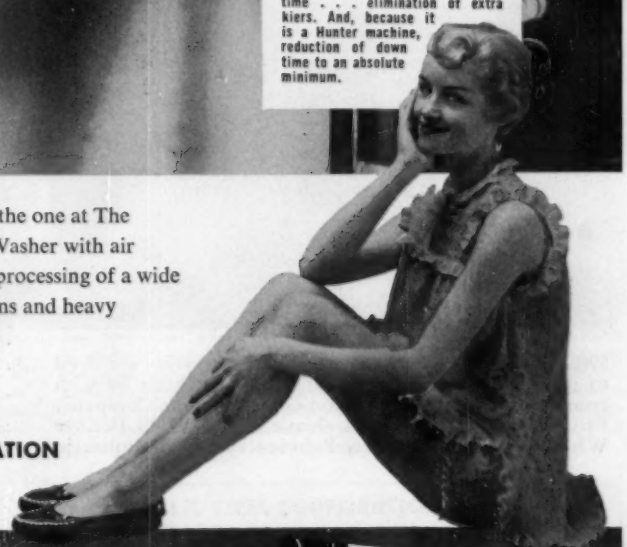


HUNTER FLEXREEL WASHER AT CARTER

Washing cotton knit goods under exacting test controls, Carter's shows thousands of dollars in production savings at its Barnesville, Ga. underwear and sleepwear plant. Looking at the long-run manufacturing picture, this is what Carter gains: speeds up to 200 yards a minute . . . reduction in kier time . . . elimination of extra kiers. And, because it is a Hunter machine, reduction of down time to an absolute minimum.

In addition to the Hunter Flexreel Washer, like the one at The William Carter Co., Hunter makes a Conereel Washer with air operated guide pins which permits tension-free processing of a wide variety of fabrics such as cotton knit goods, lawns and heavy bark cloths. Fabrics are handled at speeds up to *300 yards a minute* . . . preserving full fabric strength without surging or seam breakage.

PUT *PROFITS* IN YOUR WASHING OPERATION WITH THE HUNTER FLEXREEL WASHER



JAMES HUNTER

BUILT BY HUNTER ...IT'S DEPENDABLE

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS.

MACHINE COMPANY

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

plus production

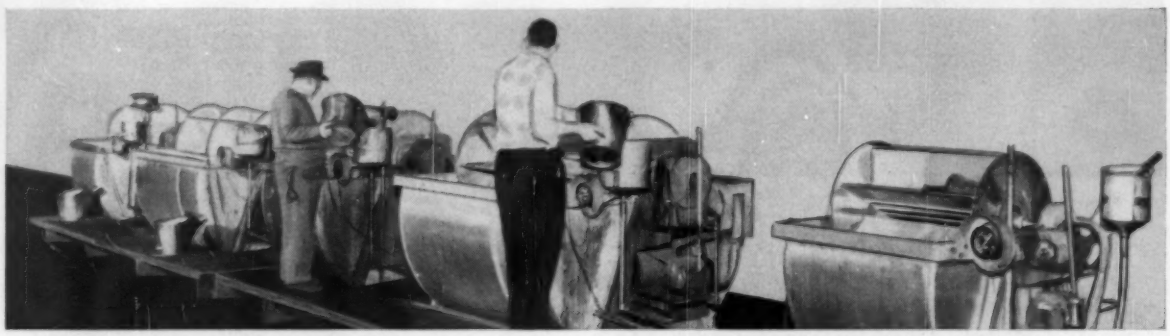
- efficient operation of modern equipment
- less down time of equipment
- quick, easy repair . . . rapid parts delivery

For more data, write this page number on Reader-Service card. →

Stainless Steel Keeps

COLOR-CONTAMINATION WORRIES disappear when you use dyeing and bleaching equipment fabricated from Republic ENDURO® Stainless Steel. It's the metal that assures trueness of color—and purity of bleached whites, too. It's the metal that's safe for the most delicate colors and fabrics.

THERE IS NO DANGER OF OFF-COLORS caused by metallic oxides. ENDURO Stainless Steel stubbornly resists rust and corrosion. It is non-contaminating. ENDURO does not react with or absorb dye-bath chemicals or peroxide bleaches. Considerably less of these chemicals are required to maintain necessary concentrations.



SWEATERS, TAPES, HOSIERY and other garments are dyed to perfection in stainless steel equipment built by such companies as Klauder Weldon Giles Machine Company, Philadelphia, Pa. Shown above is the KWG Paddle Wheel Dyeing Machine. Fabricated from Republic ENDURO Stainless Steel, Type 316, it assures long life with minimum maintenance and maximum resistance to rust and corrosion. The strength of stainless steel permits rounded corner construction of tub, eliminates crevices where color could lodge to contaminate later dyeing operations.

REPUBLIC

REPUBLIC STEEL

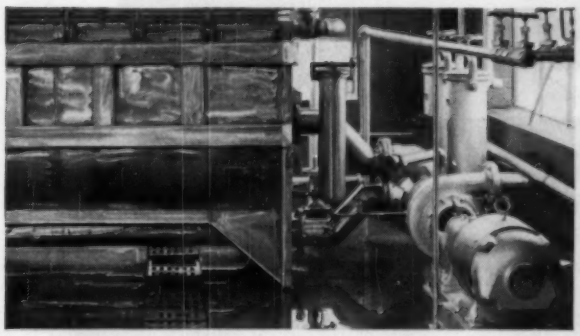
World's Widest Range of Standard Steels

← For more data, write this page number on Reader-Service card.

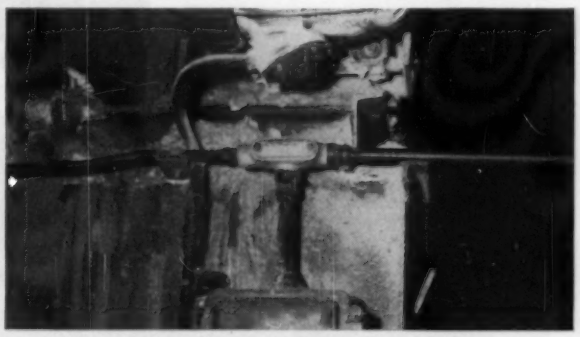
Colors Bright and True

QUICK COLOR CHANGES and economical processing of small runs is made possible by ENDURO's easy cleanability. A water rinse quickly restores its smooth, hard surface to sparkling cleanliness. There is no need for expensive boil-outs—no need for using caustic, reducing, or oxidizing agents to remove dyes.

WANT MORE FACTS? Your supplier will give you additional reasons for using equipment fabricated from Republic ENDURO Stainless Steel—the metal that keeps colors bright and true, that cuts costs, that lasts and lasts. Or, if you would like to discuss your problem with a metallurgist, just mail the coupon. There's no obligation.



REPUBLIC ELECTRUNITE® ENDURO STAINLESS STEEL PIPE KEEPS REPLACEMENTS COSTS DOWN by providing a corrosion-resistant piping system. Above, it is used to transport dyeing solution from stainless steel storage tanks to a stainless pressure dye, boil-off, and bleach machine. ENDURO Stainless Steel Pipe offers maximum resistance to rust and corrosion. Resists the corrosive action of most alkalies and acids. This long-lasting pipe is an inexpensive investment in long-range economy. Send for 60-page brochure.



DEKORON®-COATED ELECTRUNITE E.M.T. KEEPS MAINTENANCE AT A MINIMUM on electrical raceways by stubbornly resisting the action of corrosive fumes and gases. A polyethylene coating over a galvanized finish gives you double protection from outlet to outlet. Moisture-tight, corrosion-protected joints are made by wrapping the threadless connectors and couplings with plastic tape. Republic Dekoron-Coated Electrical Metallic Tubing and Rigid Steel Conduit cost less because they last longer. Send for Booklet DEK-1.

STEEL

and Steel Products

REPUBLIC STEEL CORPORATION
Dept. C-3193
2190 East 45th Street, Cleveland 27, Ohio

☐ Have a metallurgist call.
Send more information on:
☐ ENDURO Stainless Steel ☐ ENDURO Stainless Steel Pipe
☐ Dekoron-Coated ELECTRUNITE E.M.T. and Rigid Steel Conduit

Name_____ Title_____
Company_____
Address_____
City_____ Zone____ State_____

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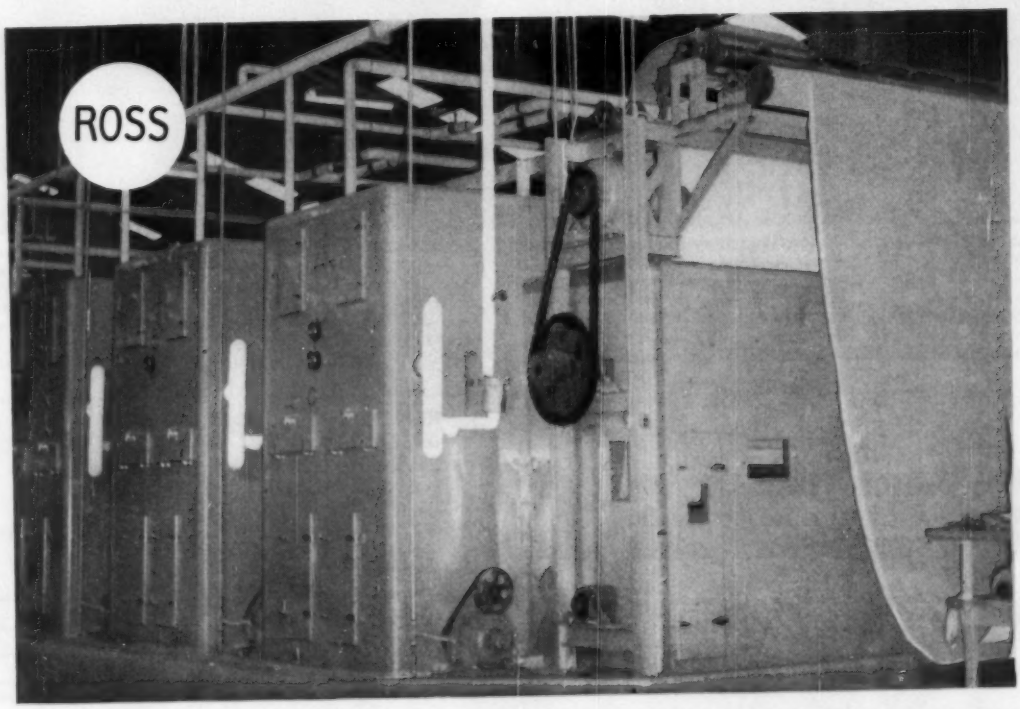
ROSS Air Systems COMBINING ..

A&G dryers



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... 2 ENGINEERING SKILLS

In the Important Field of Drying

Last December, Andrews & Goodrich, with manufacturing facilities in Boston, became a division of the broadening J. O. Ross Engineering Corporation of New York.

Both Andrews & Goodrich and Ross Engineering have had years of experience in the design and manufacture of dryers. The services offered by Andrews & Goodrich engineers, who since 1920 have specialized in drying problems in connection with textile finishing, are now augmented by the broad experience in industrial drying available through Ross Engineers.

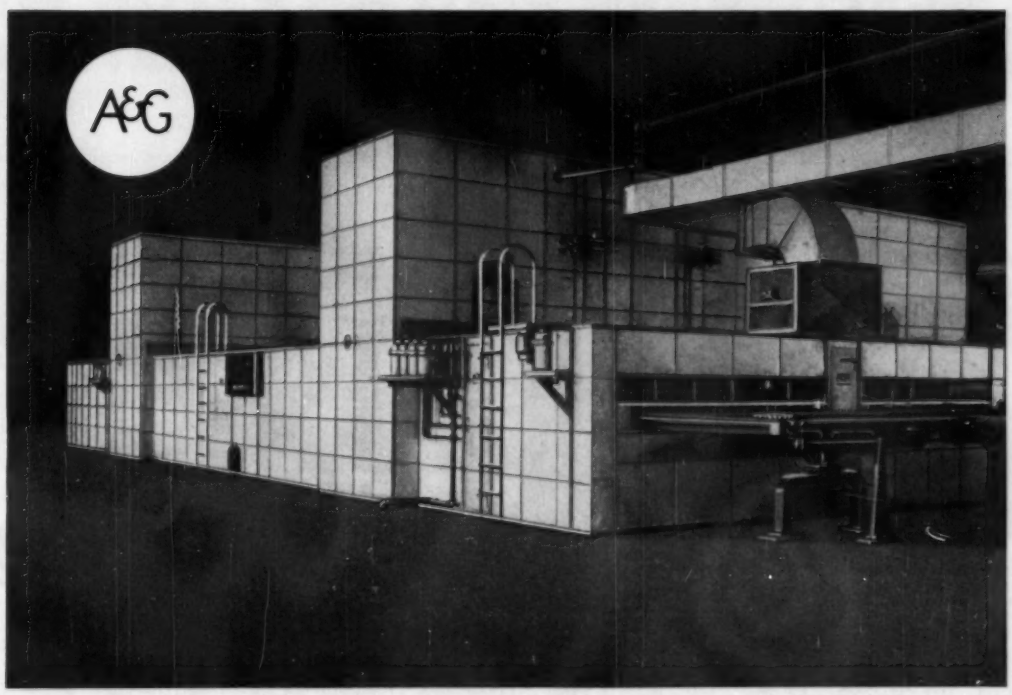
Each company will maintain its present sales and engineers organizations and field representatives but each will assist the other. These complementing services should be very helpful to textile finishers in connection with their drying problems.

Please address all inquiries to:
ANDREWS and GOODRICH DIV.
J. O. ROSS ENGINEERING CORP.
336 Adams Street
BOSTON (Dorchester), MASS.

ANDREWS and GOODRICH DIV.
BOSTON (Dorchester), MASS.

J. O. ROSS ENGINEERING CORPORATION
NEW YORK, N. Y.

Southern Representatives: McSpadden & Scantland, Charlotte, N. C.



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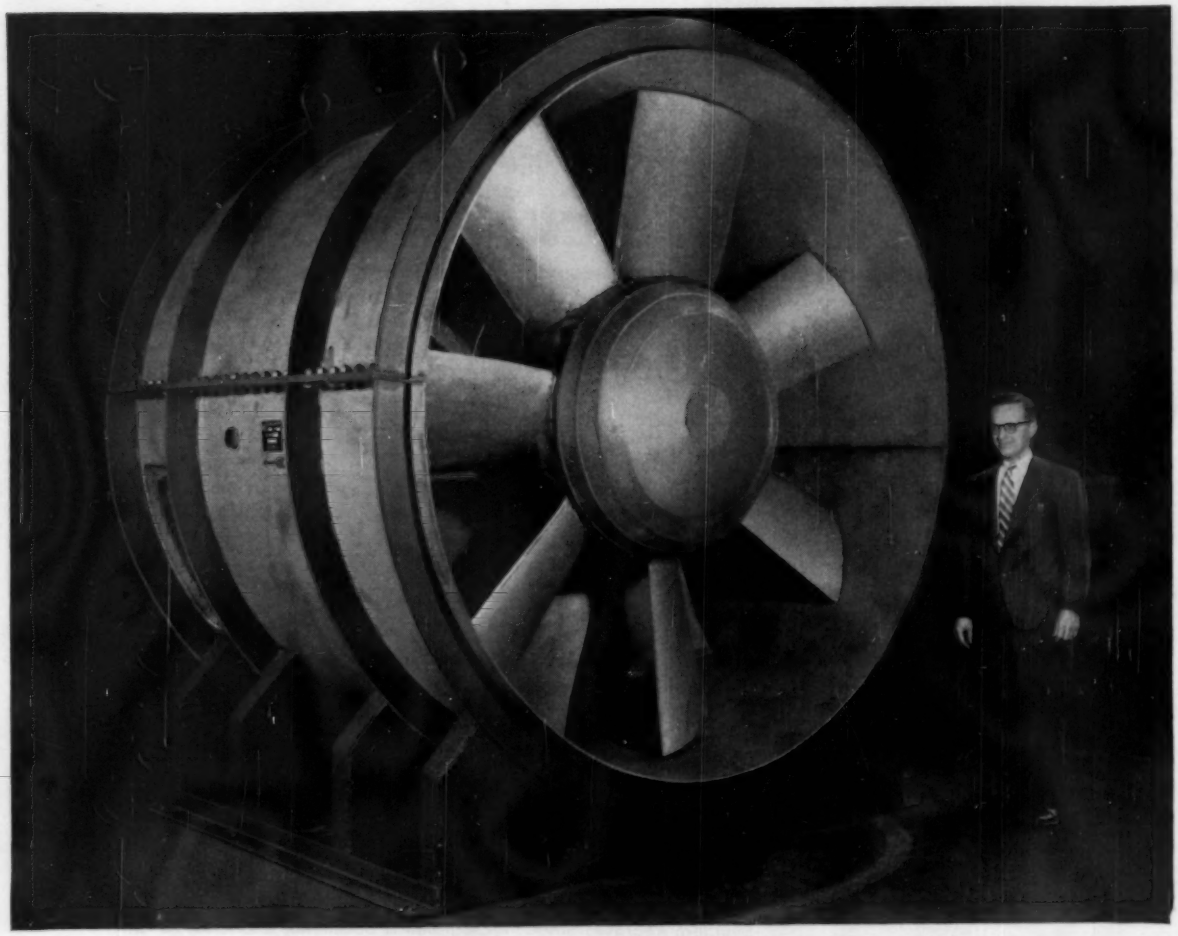
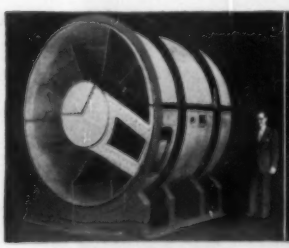
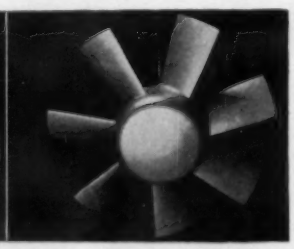


"BUFFALO" SPECIFIED BY RAYON MILL IN THREE MAJOR FAN INSTALLATIONS!

Above is the fourth giant "Buffalo" Vaneaxial Fan furnished to a rayon mill in India since 1950. Of stainless steel construction with a 96" cast aluminum airfoil wheel, it delivers 210,000 cfm against 2.1" pressure at 110° F. under slightly acid conditions and is powered by a 125 HP, 980 RPM motor. This is a repeat order of a duplicate Vaneaxial supplied to the same mill in 1954, which in turn, followed two similar 84" Vaneaxials shipped in 1950. Supplied with each of these Vaneaxials were "Buffalo" Centrifugal Fans ordered and re-ordered on the strength of performance and durability on the job!



Outlet side of 96" "Buffalo" Vaneaxial Fan showing fixed directional vanes which smooth air flow for high efficiency. Note streamlined fairing for V-belt drive. All parts in contact with acid air stream are stainless steel.



Efficient airfoil wheel used in "Buffalo" Axial Flow Fans has blades with pitch which changes from smooth hub to tips, producing uniform air flow and low rotor speeds; tested for strength in "Buffalo" Vacuum-pit and factory-balanced.

WHERE IS "BUFFALO" AXIAL FLOW YOUR BEST CHOICE? Write for Bulletin 3533 for full details and performance chart to aid you in making the best fan selection.

BUFFALO FORGE COMPANY

BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING FORCED DRAFT COOLING HEATING PRESSURE BLOWING

← For more data, write this page number on Reader-Service card.

On the Spot Personal Attention

. . . right in your own mill!

Problems in your Card Room? Ask a TUFFER Sales Engineer to visit your mill and give you assistance in working out a solution. You'll get logical, workable suggestions and recommendations that mean increased production, improved quality, less down time. Your inquiry involves no obligation.

Tuffer TRADE MARK

CARD CLOTHING

Manufacturers of Card Clothing since 1866

Tuffer

HOWARD BROS.

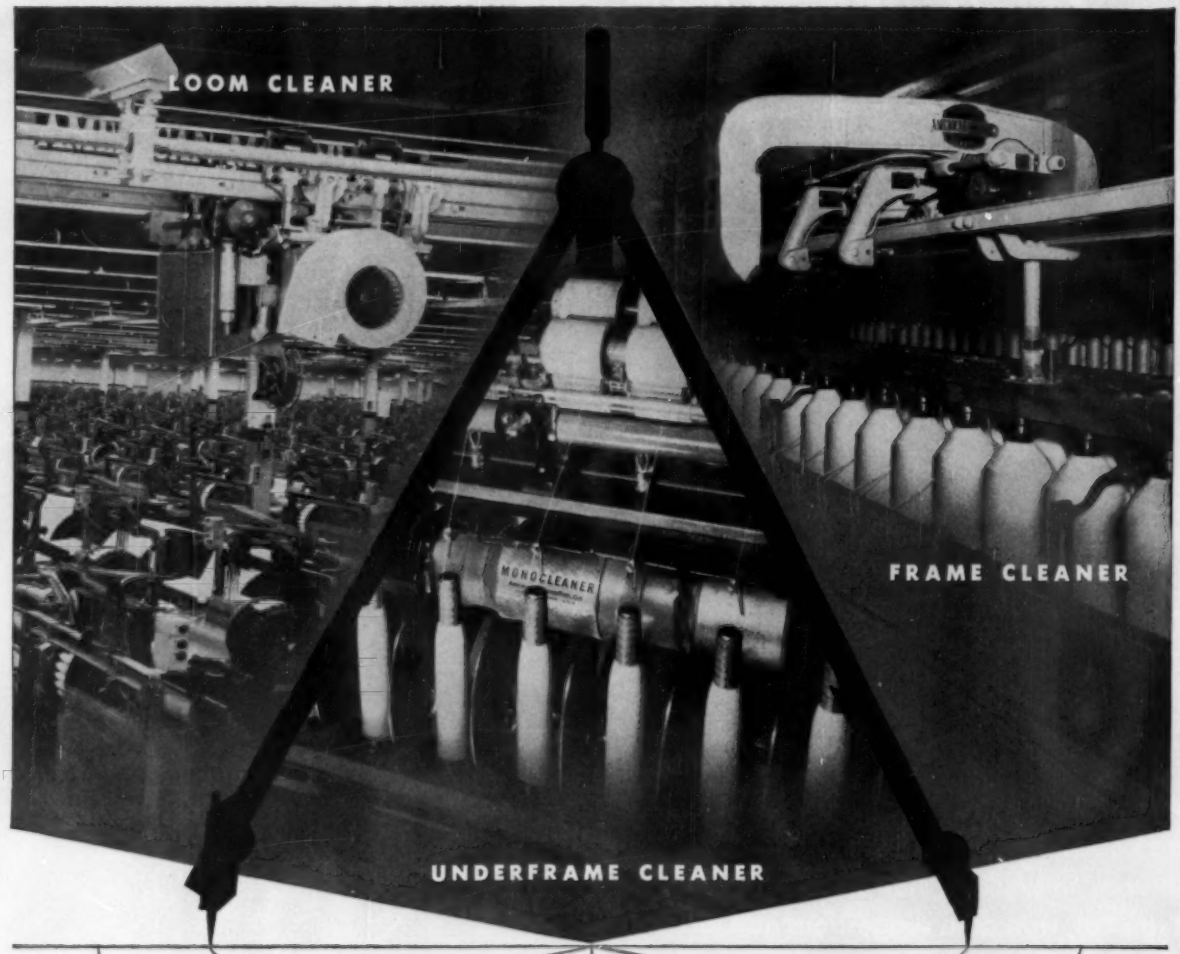
T3

WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga., and Gastonia, N. C.

Direct Representation in Canada

TUFFER PRODUCTS Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing and Brushes • Top Flats re-covered and extra sets loaned at all Plants • Lickerins rewired at Southern Plants • Hand Stripping Cards



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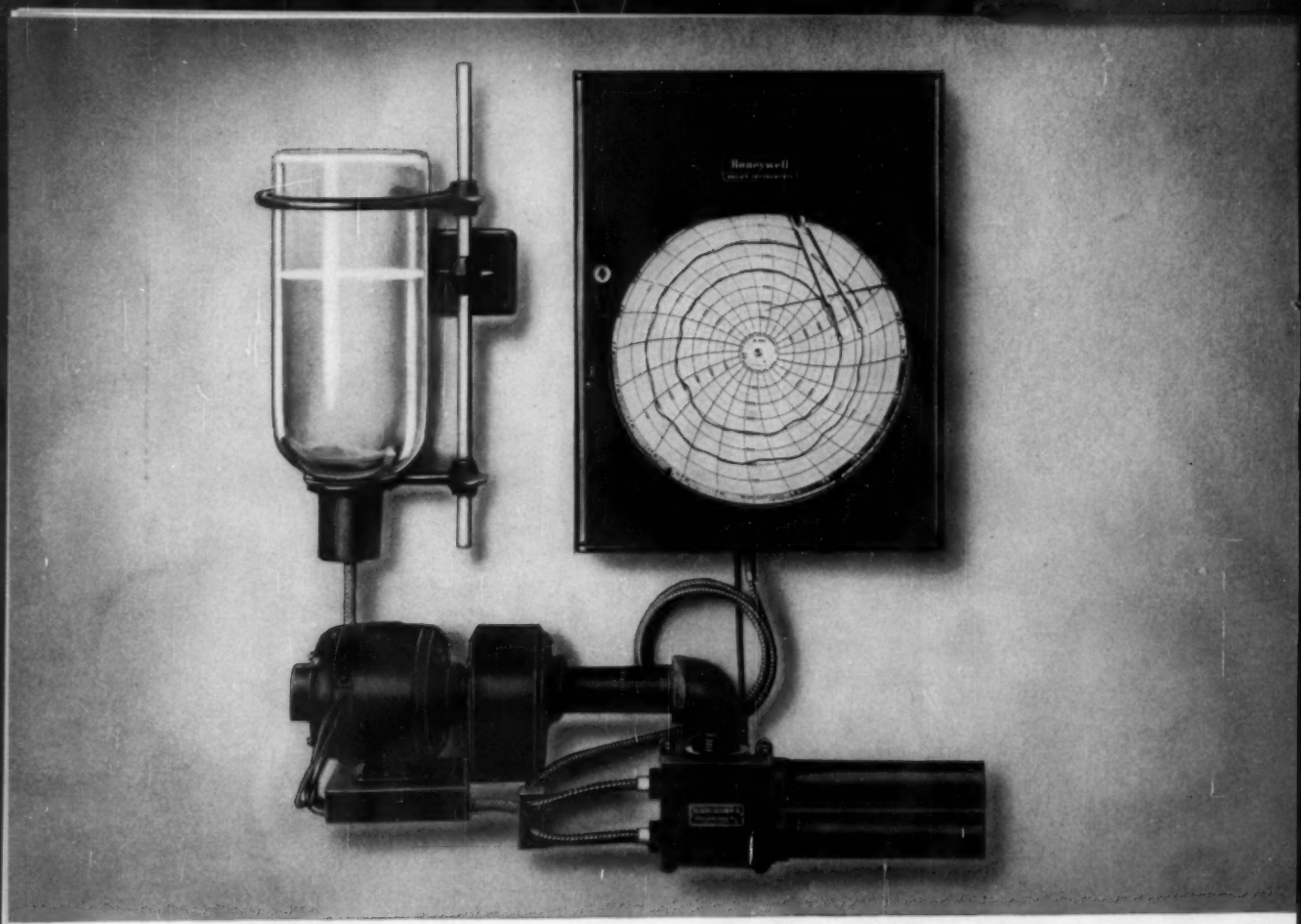

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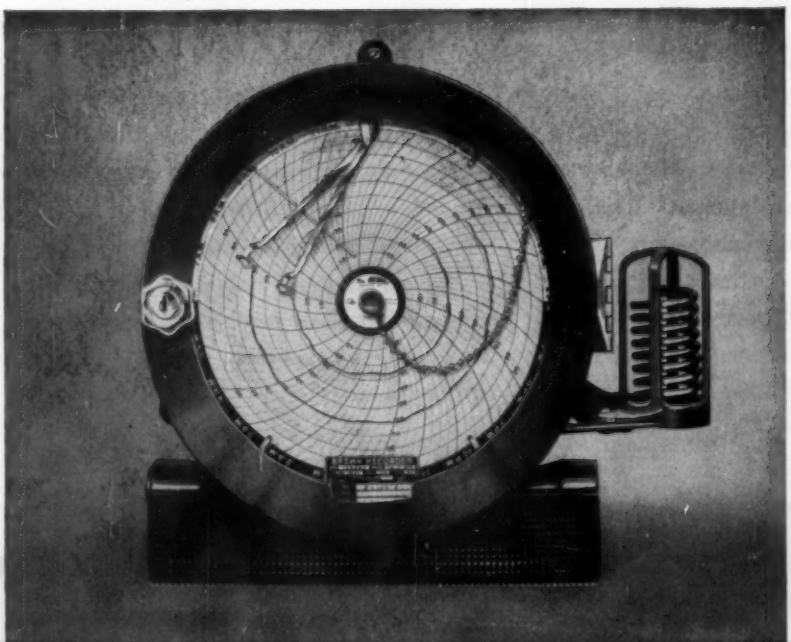

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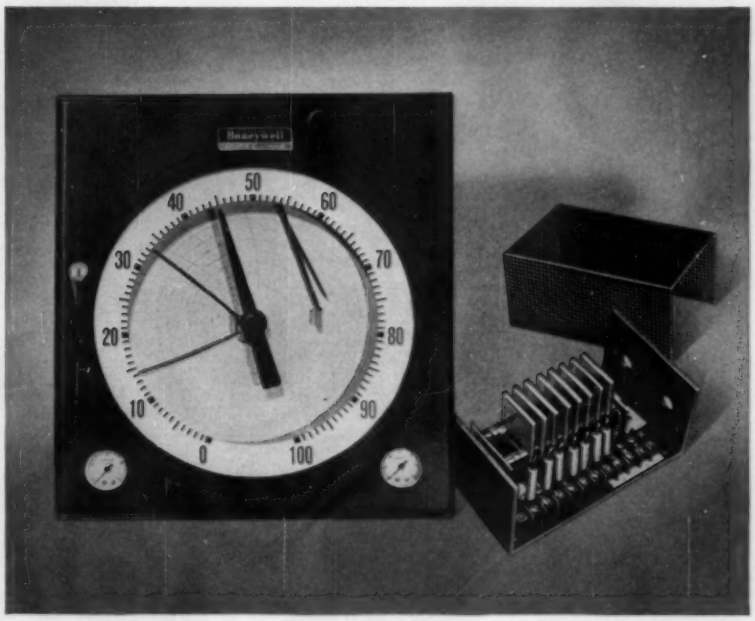

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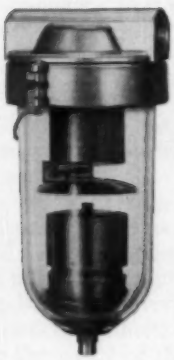

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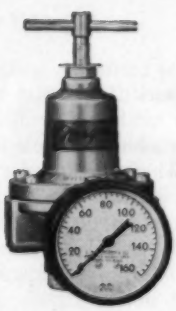

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The LONG-RANGE VIEW

What They're Afraid Of

Last month on this page, and several times in the past, we discussed the problem of attracting more young men to the textile industry. The very fact that an unusual effort must be made to convince young men that the textile industry is a good place to work indicates that something is wrong and corrective measures should be taken.

We have expressed our opinion. Key mill men have expressed their opinions. Educators have expressed their opinions. But exactly what is the truth of the matter?

What Young Men Think

In the final analysis, the only thing that makes any difference at all is what young men choosing their life's work think.

The following letter from a senior in one of the textile schools came to us unsolicited. We publish it here in full. Although the student who wrote it did not ask us to keep his identity in confidence, we shall do so.

We hope that every mill that tries to recruit any textile-school graduate this spring will think it is talking to the writer of this letter.

"Dear Editor—

"During my three years at ——— [textile school], I have talked with many students concerning the textile field. These talks were motivated by the fact that several students told me early in my textile course that if they had it to do over again they would not study textiles. As my talks with students have revealed, three out of four students in this textile school feel that way.

"Naturally, I wanted to know why textile students are dissatisfied. What I discovered to be the cause of the dissatisfaction can be corrected only by mill management. Therefore, I would appreciate your publishing the following open letter to textile-mill management:

Students to Management —

"Soon you will be sending scouts out to choose your prospective employees from this year's crop of textile-school seniors. We have worked and played hard for four years. We possessed courage to even enter the textile field in the first place. Most of us are realists; we do not expect ideal conditions in your mills. However, we do expect you to be fair. Your scouts should not make promises that will not be honored in the future. You keep your bargains with us, and we shall endeavor to give you the best of our services.

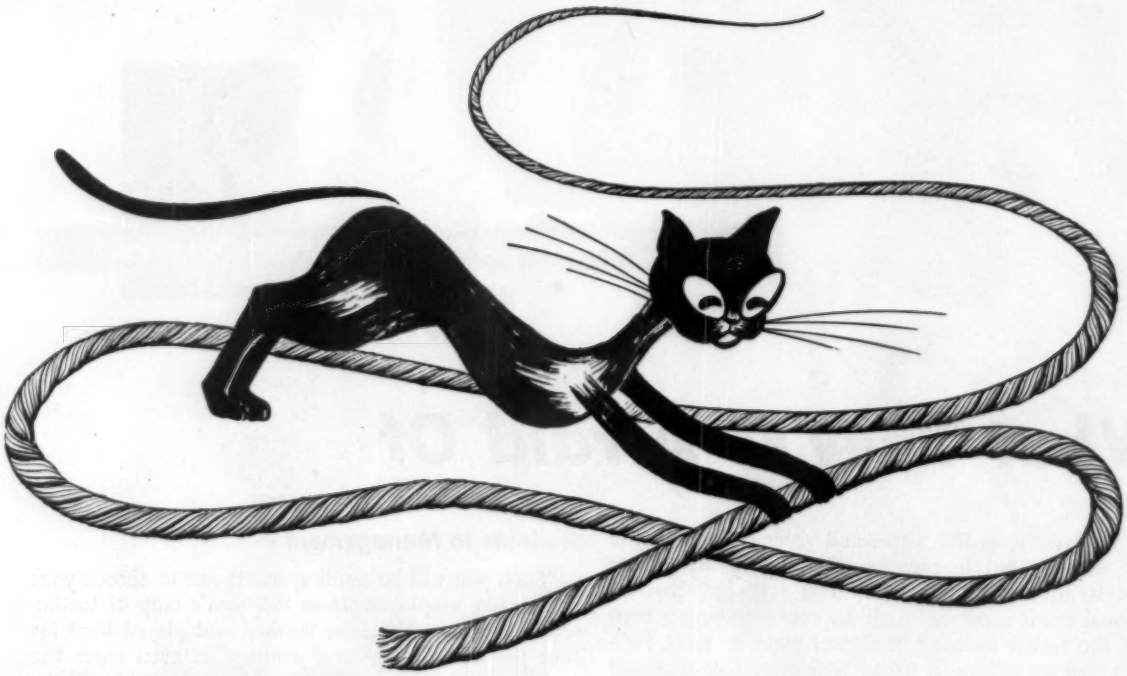
"Four years ago we entered the unstable field of textiles with a belief, but now we are afraid—afraid of what the future holds. We need you to give us a feeling of security. Just show us that your business policies are sound. If there is a chance we will be fired in a couple of years due to a merger or other cause, we should know about it. Most of us either come from a mill town or have some connections with the textile field. We have been brought up listening to mill talk. Do not try to fool us. We are mature enough to judge whether or not to take our chances with you.

"There has been much talk of Japanese imports. We are not afraid of them. There has been talk of oligopoly and monopoly, of small mills becoming nonexistent. Yet we have seen small mills flourish under good management.

"The only thing we are afraid of is you! You, who make golden-edged promises that you do not remotely intend to uphold in the future.

"All we want is the truth. Give us the true story, and you will be surprised at the results. In return for the truth, a sense of security, and sound business policies, you will get a young mind eager to learn the textile trade and an undying loyalty to your company."

J. M. Thomas



TOW

. . . the way to better cordage

One of the greatest advances in the cordage field was the introduction of synthetic fibers. Their increased strength, with far less bulk and weight and greatly improved weather resistance, revolutionized the industry. And, Turbo Stapler processed tow increases these inherent advantages. For example: Some cordage end uses require high strength, others demand easy handling, knot-ability or elasticity. With Turbo Stapler processed tow these are controllable factors that can be increased or decreased to provide the best possible cordage for the end use in mind.

The Turbo Stapler is a compact, precision machine with easily adjustable controls. It produces a completely imbricated, varied staple with a maximum length adjustable to 13 inches. The parallelism of the original tow is retained to produce an exceptionally even yarn.

Yarns produced via the Turbo Stapler may open entirely new fields for cordage manufacturers. Our facilities are available, for experimental and production work, to interested producers.

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TURBO MACHINE COMPANY
LANSDALE, PA.
Makers of precision Heat and Steam Setting Machines, Crimpers and Tow Processing Equipment

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Financial Aid to Higher Education

A Fine Start, But...

This editorial has two purposes. The first is to salute American business for the fine start it has made in helping to relieve the financial plight of our colleges and universities. The second purpose is to stress the importance of having business provide more financial aid, and soon.

How Business Helps Higher Education

Business contributions to higher education doubled between 1950 and 1955. They jumped from $40 million to $80 million. Preliminary figures indicate they will be even higher this year.

Business firms have also shown a lot of ingenuity in devising different ways of making their contributions. The methods range from a matching of an employee's contribution to his particular alma mater to wide diffusion of the money through state and regional money-raising associations of colleges and universities. Thanks to this ingenuity, business firms now have a wide choice of ways by which to give effective aid. The way most appreciated by college administrators is the making of gifts unrestricted as to the purpose for which the money is used.

Imposing as it is, however, what business has done thus far is only a good start. Only a tiny fraction of the total number of business firms in the country are giving direct financial help to our colleges and universities; and this fraction includes fewer than half of the hundred largest corporations in the country. Also, the amount of financial help being provided by business constitutes only a very small fraction of what is needed.

Why Colleges Need More Aid

Right now our privately endowed colleges and universities need about $350 million more in operating income a year than they are receiving to enable them to pay decent faculty salaries and be in tolerably good working order otherwise. The reasons, including a severe decline in the purchasing power of their endowment income because of price inflation, have been dealt with in the previous editorials in this series.

In addition, these institutions, together with the tax-supported schools, are faced with a tremendous increase in enrollment over the years ahead. With both a rapidly increasing population of young people and an increasing propor-

tion of them going to college, this year's enrollment of 3.2 million students is expected to reach 4.0 million by 1960, and to be doubled by 1970.

For the next ten years our privately supported colleges and universities must have an average of about $400 million a year above what they can be expected to collect from tuition fees, income from endowment funds, etc.

This figure of $400 million does not include what is needed for new buildings and equipment. It also does not include help for tax-supported schools above what they get from taxes, fees, etc. Business has given and will continue to give these schools substantial aid. Indeed, almost 25% of the financial help from business for our colleges and universities went to tax-supported schools in 1955.

If aid from business met their needs for increased operating income, the privately supported colleges and universities would be given a decisive lift in performing successfully their part in our system of higher education. They would still have large needs of capital equipment — buildings, dormitories, laboratories — but help from other sources, such as that provided by devoted alumni, where they are well organized, could be expected to go far toward meeting these needs. Also some companies prefer to concentrate on meeting needs of this type.

What 1% of Profits Would Do

But do business firms have the capacity to fill the gap in adequate operating income for our privately endowed colleges and universities without putting an excessive financial burden on themselves? Those who have studied this capacity carefully say that the answer clearly is yes. If, of its profits before taxes — last year an estimated $43 billion — business were to devote 1% to helping our privately endowed colleges, it would take care of present operating needs of about $350 million a year. And the balance of $80 million would be a big step in meeting their needs for new buildings and equipment, too.

About one half of a 1% contribution of this sort would, in effect, be made by the federal government. Up to a limit of 5%, contributions of this type are exempt from the federal corporate income tax. For corporations with incomes above $25,000 per year this tax is 52%.

It is clear that not all business firms are in shape to devote 1% of their profits to aid to higher education. Even in this year of record-breaking prosperity, many of them will have no profits at all. But if business generally would take 1% of pre-tax profits as a target or benchmark for financial help to our privately endowed colleges and universities these institutions would again have sturdy financial foundations.

Relatively this is a very small price to pay (1) to insure a continuing supply of competently trained young men and women and (2) to buttress our freedom by assuring the successful survival of the privately supported sector of our system of higher education.

This is one of a series of editorials prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nationwide developments of particular concern to the business and professional community served by our industrial and technical publications.

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Donald C. McGraw

PRESIDENT

McGRAW-HILL PUBLISHING COMPANY, INC.

1956-1957 Review and Forecast

1957 Business: Fair to Good

After a cautious start, 1957 should see—

- **Good business for synthetics and wool; a slow start and midyear pickup for cotton**
- **A continued fast rate of mill improvements**

TEXTILE BUSINESS in 1957 got under way with a little more caution than a year ago. At this time last year, predictions for 1956 were all bullish.

And business for the first half justified the predictions. Up to July, fiber consumption ran well ahead of the previous year. But at midyear, production turned down; and 1956 wound up a little more than 4% below the year before.

With the downturn in late '56, most mills started 1957 with the feeling that new high records were not likely to be set this year.

However, profits were in a better light.

For the first half, textile-industry profits rose from $166-million in 1955 to $197-million in 1956—a 19% increase, compared with an all-manufacturing-industries increase of only 9%. Third-quarter profits for a majority of mills continued at a healthy pace.

As 1957 began, inventories of cotton goods were still slowing down production and taking some of the bloom off profits. Significant improvement is not expected until fall.

Offsetting these conditions somewhat, synthetics were picking up and wool was continuing its good 1956 performance.

Mills Improve

After the Administration's assurance last September that imports from Japan would be controlled at a reasonable level, more industry leaders began to talk about threatening undercapacity in the industry and the necessity for increasing capacity.

TEXTILE WORLD's estimate [Dec. '56, p. 71] is that mill capacity and market demand will meet soon, probably next year.

Mill improvements are going ahead at a fast rate. As pointed out in the Mill Purchases article of this section, mills set a new all-time-high record in expenditures for machinery, equipment, and supplies in 1955 and again in 1956. This year may see the third new high in as many years.

Tight Money a Drag?

Last year interest rates on borrowed capital increased to the point that mills began to back away from loan capital for expansion and improvement.

One large mill organization opened negotiations for a big loan and then decided on other methods of financing because of the repayment costs. Another sold off some important holdings rather than pay the going rate of interest. In other industries there was a rash of new stock and bond issues.

If the cost of loan capital does not ease, mills that depend on outside financing for expansion and improvement may have to tailor their plans to other methods of financing or adopt a pay-as-you-go program.

Mill Production

1956—Down 4.1%
1957—Up 2.4%

Mill production in 1956 as off 4.1% from 1955 but is expected to regain about half the loss this year. The scoreboard shows:

	1956	1957
Cotton	— 2.5 (%)	— 1.5
Rayon	—16.9	+12
Wool	+ 8.0	+ 6
Other synthetics	+ 8.3	+12
Total fiber use	— 4.1	+ 2.4

MILL PRODUCTION IN 1956 was 4.1% below the 1955 level. TEXTILE WORLD's mill-activity index fell back to 105, compared to 110 in 1955 (1947-49 = 100). There were approximately 6,416-million pounds of fiber consumed in the United States during the year, compared to 6,693-million in 1955.

The percent gain or loss in fiber usage by type of fiber from 1955 to 1956 was:

Cotton	— 2.5%
Rayon	—16.9%
Wool	+ 8.0%
Other synthetics	+ 8.3%
Silk	+ 6.9%

What Happened in 1956

Inventories

Inventories held early in 1957 by the textile industry as a whole are high.

Cotton-cloth inventories at mill level climbed consistently and at a high rate through most of 1956. Vacation shutdowns and subsequent production cutbacks during the third quarter failed to reduce or even level off the spiraling stock situation. Fourth-quarter cutbacks to five-day operations were not sufficient to offset additional accumulation.

Rayon underwent a period of adjustment throughout most of 1956 that reduced mill stocks considerably. Inventories are at a moderate level but are by no means historically low.

The same moderate accumulation of stocks occurred in wool.

Throughout the channels of distribution, the same picture is evident to a smaller degree. Finishers' stocks of both gray and finished goods are historically high. Apparel-manufacturers' stocks are also above moderate levels, as are those of dry-goods wholesalers.

Buying in these last two classes of trade picked up slightly in the third quarter but showed evidence of being fill-in buying for seasonal shortages in a few selected constructions. At retail, despite a vigorous dollar-sales volume throughout 1956, stock-to-sales ratios were well above last year for most major textile items.

Mill Orders

What would appear to be a very robust level of cotton-mill-order backlogs is in reality misleading. Much of this backlog is stagnant, consisting of orders placed as much as a year ago and upon which delivery dates have been moved forward time and again. The result will be either eventual cancellation or a decrease in future new orders while the slates are cleaned.

Prices and Profits

Prices were depressed in synthetics and cotton throughout 1956, although they edged up slightly toward the end of the year.

In the textile-mill-products industry, profits per dollar of sales were estimated at 2.6¢ after taxes during the second quarter. This margin compared with 2.4¢ in the same quarter of 1955 but was well below earnings of 3.2¢ in the first quarter of 1956. Profits were further squeezed during the last half of 1956.

Prospects for 1957

Industry stocks are very high, and cloth prices are for the most part depressed. Cutbacks in cotton-goods production have failed to stem the tide of rising inventories. Cumulative overproduction is presently taking place.

TEXTILE WORLD'S
Textile-Mill-Activity Index
(1947-1949 average = 100)

1924	50	1940	80
1925	58	1941	106
1926	61	1942	113
1927	68	1943	109
1928	61	1944	101
1929	66	1945	98
1930	50	1946	107
1931	53	1947	105
1932	48	1948	105
1933	60	1949	89
1934	52	1950	112
1935	57	1951	113
1936	70	1952	106
1937	72	1953	107
1938	59	1954	99
1939	74	1955	110
		1956 (est.)	105

Total consumption (by years previous to 1942, monthly from 1942 on) of all fibers in millions of pounds; horizontal lines show yearly monthly averages.

Although stock levels do not necessarily prompt buying, they do set the stage for increases and decreases in buying patterns. At present, sentiment to buy or extend commitments is at a low ebb. This problem is further intensified by the import situation and the belief that raw-material prices will not rise appreciably over the next few months at least.

First-half 1957 operations will be characterized by a digestion of stocks through all levels of distribution. Purchasing will continue on an intermittent hand-to-mouth basis. This situation holds true for cotton goods and to a less degree for synthetics, where inventories have been reduced but are not small. Further cutbacks will have to be made and working hours per week decline.

The situation today resembles closely similar situations in early 1948 and mid-1951 and -1953. From historical analysis, it should take a minimum of seven months to bottom out, with a possibility of eight or nine months not unlikely.

Assuming an upturn in late June or early July, 1957, indications are that the recovery will take place at a point where stocks will still be in moderate supply at the mill level. Trade stocks will be reduced somewhat further, and buying should pick up considerably.

The situation will be tenuous, however, since rampant production could throw everything off balance once again. It therefore appears that the recovery will be of a slow, uphill nature and reach at least far into the third quarter.

This forecast is true of cotton primarily. Synthetics should begin enjoying increased activity and improved prices and profits around the beginning of the second quarter. Wool should have a good year of sustained growth throughout 1957.

Production by Fiber

Cotton

Output of cotton broad woven goods in the first six months of 1956 amounted to 5,346-million yards, up 5% from the 5,068-million yards produced during this period in 1955. This output was 2% above the very active first half of 1953 and the highest first-half figure since record 1951.

From July to September, an estimated 2,255-million yards were produced. This output was 14% below previous-quarter figures and represents almost double the normal seasonal decline. Compared to 1955, production in the third quarter of 1956 declined 6%. Fourth-quarter output should run about 4% above third-quarter production and should reach approximately 2,346-million yards.

Sheetings and Ducks

Production of sheetings and allied coarse- and medium-yarn fabrics during the third quarter was 450-million yards, compared to an average of 510-million yards for the two previous quarters. It was 25% below 1955 third-quarter levels. Duck output increased 10% for the second straight year after exhibiting a declining trend over the three prior years.

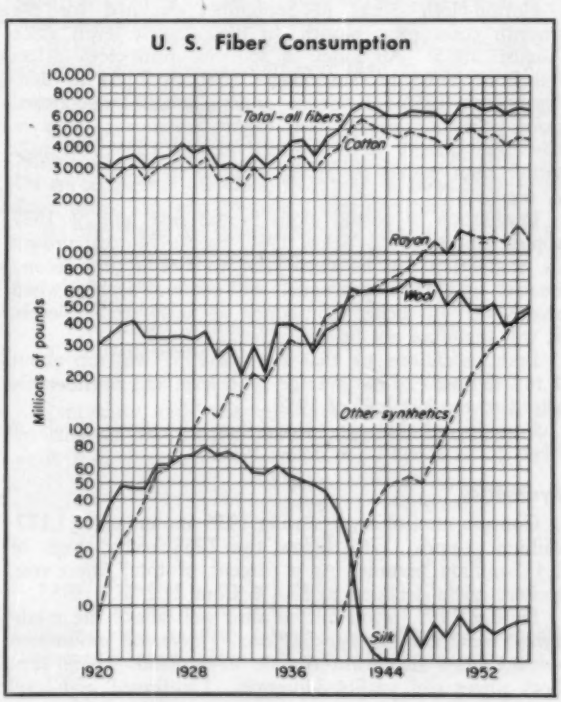
Print Cloth

Production of print-cloth yarn fabrics during the first half of 1956 increased less than 1% compared to 1955, while third-quarter production was 4% below the same period in 1955.

Colored-yarn fabrics repeated the 5% decline exhibited in 1955 and continued their slow downward trend.

Inventories

Stocks of cotton broad woven goods moved upward in September for the eighth consecutive month. In the period of March through August, inventories climbed 57%; and some further accretion took place during September. Inventories were equivalent to 4.6 weeks of



production, compared to 2.7 weeks in the first quarter and 3.4 weeks at the same time in 1955.

Combined stocks of both print cloths and sheetings in October were equal to 370.5-million yards, down 6% from their September high but 54% above the first half of 1956 and 47% above the 1955 average.

New Orders

New orders for the first eight months of 1956 were 23% below the same period in 1955. Large increases in new orders were registered in both September and October; average weekly orders ran 90% ahead of the two previous months.

Unfilled Orders

Unfilled orders were maintained at relatively high levels throughout 1956 and were equivalent to about 8.6 weeks of production at the end of August. Sizable increases in unfilled orders continued in September and October.

This high level of unfilled orders, however, can be misleading. A large portion of them is old orders that remain on the books while delivery schedules are repeatedly advanced. It was precisely this misleading level of orders that prompted sustained production far beyond the point at which cutbacks should have been made and which has ultimately led to the present stock congestion at the mill level.

Spindle Operation

Cotton-system spindles were running at the rate of 106 hours per week in September, down considerably from the first-quarter average of 116 hours but still at 89% of full three-shift, five-day operation.

Price of Cotton

Raw cotton varied from 36.2¢ a lb. in February to 33.0¢ in August and 33.2¢ in October. For the first 10 months, average prices were 3% below 1955.

October futures prices for all 1956-crop contracts averaged higher than in preceding months. Indications are that cotton prices will continue to remain relatively stable over the next few months, buoyed up by optimism regarding the soil-bank program and government sales of cotton for export at world-market prices.

Price of Cloth

Cotton-cloth prices in September declined for the seventh consecutive month, to their lowest levels since August, 1955. An index of sensitive print-cloth prices fell from 83.0¢ in November, 1955, to 77.4¢ in mid-November, 1956. Evidence of this relatively depressed price situation showed itself clearly when wage rises in the third quarter were absorbed almost 100% by mills rather than passed on as an increase in price.

In 1957 —

Production of cotton cloth in the first half of 1957 should run 4 to 5% below 1956 levels. No real upturn in production can be seen prior to late in the second quarter, and this improvement will come at a point when stocks are still being maintained at fairly sizable levels. It will therefore not be precipitous.

Best indications are that last-half 1957 will run about 1 to 2% ahead of the average 1956 level and considerably ahead of the last half of 1956.

For the whole year, production of cotton goods is likely to be about 1.5% below 1956.

Synthetics

Consumption of rayon during 1956 amounted to 1,177-million pounds, 17% below the 1955 record high of 1,417-million pounds. As a percent of total fibers consumed, rayon declined to 17.4% from 21.2% in 1955.

During 1955, rayon output shot well above the established trend for the last six years. Increased production resulted in a significant decline in demand, which kept both prices and profits depressed. Continued high-level production throughout the last quarter of 1955 added appreciably to stocks, and it was on this note that rayon entered 1956.

Sustained production during the first quarter of 1956 added to the already top-heavy situation. Profit margins tightened even further. Demand grew more lethargic, and stocks rose more. Severe cutbacks took place as the readjustment set in during the second and third quarters of 1956.

Fiber consumption during the months from April through September averaged 23% below the same 1955 period. In the fourth quarter, however, some signs of recovery were in evidence. Some firmness in cloth prices took place as stock levels declined, and increases in demand were noted.

Viscose continued its established trend and advanced more than did acetate.

Rayon Cloth

Rayon-broad-woven-goods production increased about 2% in the first six months of 1956 over the same 1955 period—865.3-million yards compared to 849.2. The major portion of this increase took place in the first quarter. Second-half estimates placed production about 10% below 1955 levels.

One-hundred-percent spun rayon decreased 24% from 1955 production levels, while 100%-filament-rayon production was sustained at about the 1955 level.

Filament Fabrics

Flat-filament-fabrics production declined only moderately during the first half of 1956 and was 2.6% below 1955 but still some 15% ahead of the same period in 1954.

Twist-filament-fabrics production was down less than 1% compared to 1955.

Drapery and Upholstery

Pile-drapery and upholstery-fabric production was 52.5-million yards, exactly equal to 1955, while all other mixtures were down 11% from 1955 production levels.

Nylon

Nylon output during the first half of 1956 amounted to 155-million yards, 19% below 1955, but still over six times the 1947-49 output level of 24-million yards.

About 166-million yards of other synthetics were woven during the first half of 1956—14% above 1955 levels. Polyester fabrics showed the largest increase (25%) in this area, while acrylic fibers were down about 1%.

High-Tenacity Rayon

High-tenacity rayon, which goes primarily into tire cord, averaged 30.5-million pounds a month, compared with 35.8-million pounds in 1955 and 28.6-million pounds in 1954. Production for the first 10 months was 15% below 1955. Nylon tire cord, however, gained 20% over the same period in 1955.

Synthetics Capacity

World capacity for production of man-made fibers has increased steadily from 4,475-million pounds in 1953 to 5,579-million in 1955 and an estimated 6,980-million in 1956. If further expansion plans are realized, 1957 productive capacity will reach 7,874-million pounds, of which rayon and acetate will total 6,881-million and noncellulosic fibers 993-million pounds.

Fiber Prices

Prices of fiber remained steady throughout 1956 but were below average 1955 levels. Viscose and acetate staple were at 32.0¢ for the first 10 months of 1956, down 6% from the average price for the same 10 months of 1955. One-hundred-fifty denier increased from 83.8 to 86.0¢ in February and remained steady at that level over the next eight months. This price represented a 4% gain over the average 1955 level. Raw-silk prices averaged 8% less than for the first 10 months of 1955.

CONTINUED ON PAGE 220

1956 Sets a Record—Another Expected in 1957

- Mill spending for machinery, equipment, and supplies piled another all-time-high record on top of 1955's
- Biggest gain was in spinning and weaving
- 1957 is expected to better 1956

For the second year in a row, mills in 1956 set an all-time record in purchases of machinery, equipment, and supplies. Buying volume was up 8% over 1955, a record year itself.

In three of the last four years—1953, 1955, and 1956—new all-time-high records have been set. In 1956, mill purchases were 33% ahead of the three-year 1947-9 average.

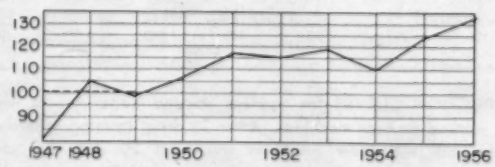
In the survey of mill purchases conducted annually by TEXTILE WORLD, the 1956 index was 133 (1947-9 = 100). That compares with late years as follows:

1956 — 133	
1955 — 124	
1954 — 111	
1953 — 119	
1952 — 117	
1951 — 118	
1950 — 108	
1949 — 100	average 100
1948 — 107	
1947 — 93	

How the Increases Ran

As was the case in 1955, all five classifications into which the survey is broken down showed increases. The greatest gain was made by the spinning and weaving group, which had an average increase of 10.8% over 1955.

Purchases of Equipment and Supplies By Textile Mills Based on Dollar Volume in TW's Index, 1947-1949 = 100



Sales gains by this group were also the steadiest. In 1955, the increase was 10.5%.

For all five categories, gains in 1956 (over 1955) and in 1955 (over 1954) were:

	1956	1955
Spinning and weaving	+10.8%	+10.5%
Knitting	+ 8.3	+14.2
Finishing	+ 9.0	+10.0
Auxiliary equipment	+ 4.8	+12.0
Supplies	+ 7.6	+13.4
Average	+ 8.1%	+12.0%

Of 146 company returns used in the analysis of the survey, 97 had increases, 19 reported sales level with 1955, and 30 showed decreases. That compares with the survey of 1955 business as follows: of 152 companies in the analysis, 133 had increases, 7 reported sales level with 1954, and 12 reported decreases.

However, in 1956 there were fewer sharp increases and decreases from the previous year than in 1955.

1957—Another Record

Another impressive gain is expected in 1957. Of 126 companies that gave their sales estimates for this year, 74 expect further increases, 38 expect business to be about level with 1956, and 14 expect sales decreases.

By categories, the expectations for 1957 are:

Spinning and weaving	+4.6%
Knitting	+3.3
Finishing	+4.8
Auxiliary equipment	+6.5
Supplies	+5.2
Average	+4.9%

Experience with past surveys has been that these sales projections are usually fairly accurate. Scores for late years have been:

	Change expected	Actual change
1956	+ 7.7%	+ 8.1%
1955	+11.5	+12.0
1954	+ 1.8	− 6.4
1953	+ 1.9	+ 1.9

If the sales increase expected in 1957 pans out, the TEXTILE WORLD index will be 139, compared to 133 in 1956.

Look After LOOPER POINTS For More and Better Hosiery

- Poorly maintained points on looping machines result in low production, slow operator training, and poor-quality work
- Have fixers straighten and shine points at least once each year, and teach looper operators the importance of correct maintenance

By **D. E. ANDERSON,** Hanes Hosiery Mills Co.

THE SOTCO STEADY-DIAL LOOPER, used for fine-gauge hosiery looping, is relatively trouble free. However, if the points are not maintained correctly, production, quality, and training programs suffer.

We discovered that correctly maintained points improve production 14%. For experimental purposes, we selected three looper operators who had been looping for more than three years and had about the same production potential.

One operator followed the procedures given in this article. The second operator used a cleaner and a lubricant at the end of each week. The third operator only lubricated her points at the end of each week.

Looping machines used in the experiment were about the same age. The points were straightened and shined within a three-day period. Each operator was informed that her points would be straightened and shined in one year's time.

The first operator looped 6,794 doz. in one year, the second operator looped 6,401 doz., and the third operator looped 5,848 doz. This difference of 946-doz. production between the first and third operator shows the need and importance of taking good care of the points.

How Points Affect Quality

This test also pointed out the effect of poorly maintained points on quality. The first operator, during the same test period, had consistently good quality that averaged 0.3% menders. The second operator averaged 1.1% menders, and the third operator had 1.7% menders.

Quality was best right after the points were straightened and shined, and it decreased in direct proportion with the production of the second and third operators.

These are the reasons for the differences in quality between the operator that takes good care of her points and the one that does not:

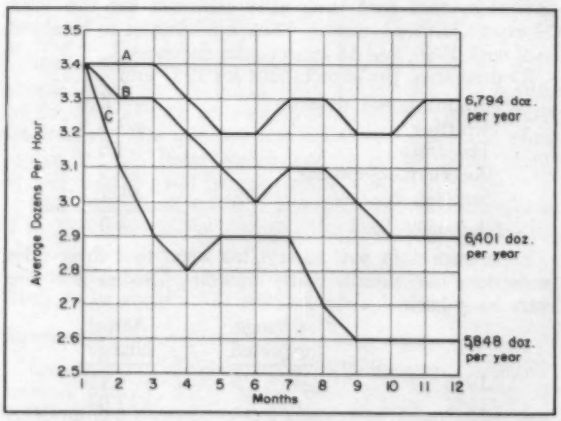
1. On crooked points, hand positions have to be altered. There cannot be smooth, rhythmical hand movements on points that are out of line, because the operator is constantly having to alter her hand positions to compensate for the bent points.

2. When the points are crooked, there is more danger of splitting stitches.

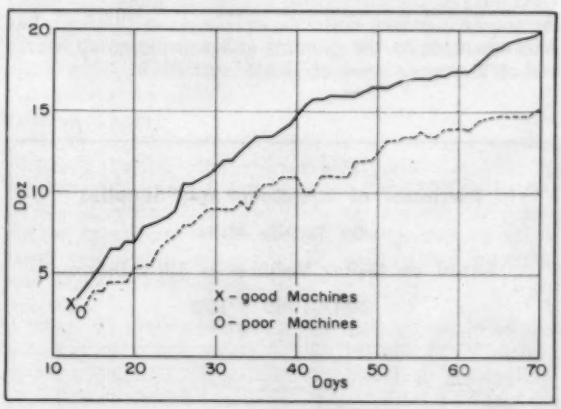
3. If the points are rough, the operator has to push the stitches on the machine. To do this, she has to put additional tension on the fabric, which throws the stitches out of line with the points and increases the possibility of menders.

4. Morale plays an important part in the quality of an operator. Most looper operators try to maintain fairly constant production and satisfactory quality. If they do this, morale is high and they are content. If obstacles, such as crooked or rough points, prevent them from maintaining this production, they complain, become dissatisfied with their jobs, and often adopt a don't-care attitude toward quality.

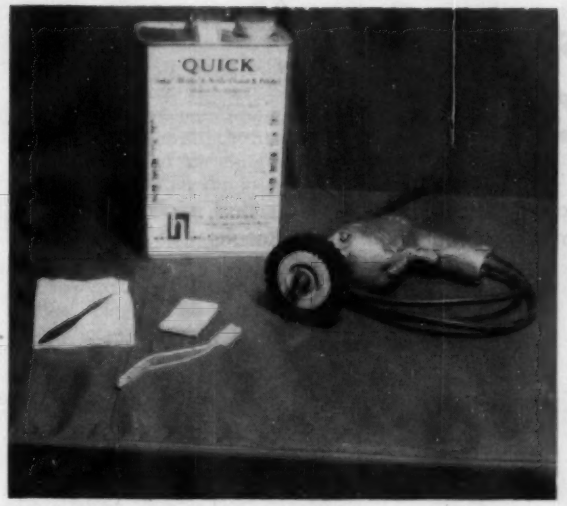
Good machines and points are essential to the looper-training pro-



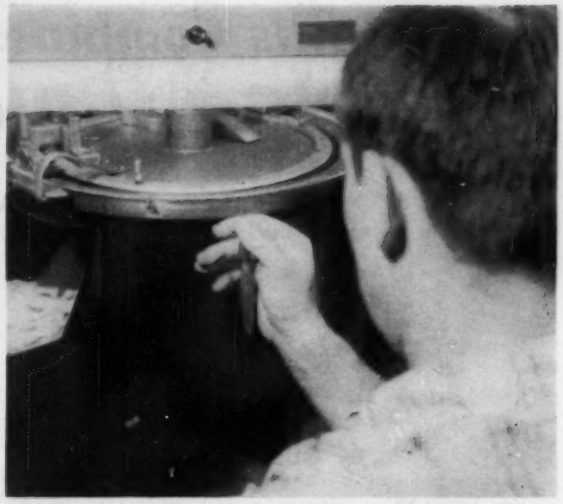
THREE CURVES show the production from three operators who were put on looping machines that were maintained in three different ways. The machines that were kept in the condition described in this article showed 14% better production than machines that were poorly maintained.



PRODUCTION CURVES for trainees showed better results when they worked on new machines. After 72 days' training, operators in the mill with new machines averaged 20 doz. per day. Trainees in the mill with old machines averaged only 15½ doz. per 8-hr. day.



EQUIPMENT for straightening and shining points includes a ¼-in. electric drill with a looping brush attached, a point cleaner, an applicator and cleaner, and a gauged point straightener.



STRAIGHTENING and shining is done by the fixer at least once each year. The looper operator must also observe certain rules to keep her looper points in top shape.

gram. Two mills using the Ladhams A.M. system of training [TEXTILE WORLD, March, '54, p. 98] have proved this fact.

Mill A started trainees on relatively new machines, while Mill B started trainees on old machines. At the end of 72 days, the looper trainees at Mill A averaged 20 doz. stockings per 8-hr. day, while at Mill B the average production was only 15½ doz.

When To Straighten Points

As a general rule, machines with 34 to 44 points per inch should be straightened and shined at least once each year. The average length of time between straightening and shining on a 40-point looper is eight months.

This time is only average. Points need to be straightened and shined whenever they are out of line or rough. Coarse-gauge machines will need shining at least once each year but will not need straightening as often.

The frequency of straightening and shining points depends upon (a) the gauge of the machine, (b) the condition of the looper line in the stocking, and (c) the type of operator working on the machine.

Finer gauge points are smaller, and they are more susceptible to becoming bent. The condition of the looper line in the stocking plays an important part in point alignment. Stockings with normal tension in the toe should fit on the points without additional tension applied to the fabric by the looper operator. If the work is tight, the operator has to stretch the work to place it on the points, which often bends the points because of the increased tension.

The looper operator working on the machine every day can prolong the correct alignment of the points or bend them out of line in a short time. There are factors beyond the immediate control of the operator that should be noted.

An operator who is tense and does not use good rhythmic movements will need her points fixed twice as often as the relaxed and smooth-working operator. A high acid content in the operator's perspiration will turn the points black and rusty.

This condition can be reduced by a chamois-skin sleeve that fits around the thumb and through the middle of the palm to extend about halfway between the wrist and elbow. This sleeve will keep most of the perspiration off the points and should be made for the right hand for operators looping from right to left, and for the left hand for other operators.

How to Straighten Points

For straightening and shining points, you will need a ¼-in. electric drill with a bristle looping brush attached to it, a point cleaner, an old tooth brush, a felt pad or porous cloth for an applicator, and a gauged point straightener.

Here's how to straighten and shine the points:

1. Remove the looping-machine brush.

2. Use a Sotco gauged point straightener to straighten the points. Begin where the gauge of the dial is stamped, or mark the dial so you will know where to begin.

3. Apply a cleaner to the whole dial. Quick sinker, divider, and needle cleaner is a nonabrasive cleaner that can be used most times.

For points that are very rusty, you may have to use an abrasive cleaning compound.

4. Shine the points by using the bristle looping brush on the electric drill. Hold the drill firmly so it will not damage the points.

5. Shine the points from the bottom. After completing the shining, repeat the cleaning and shining operations if the points are not shiny.

6. Complete the cleaning operation. Use a soft porous cloth, and push it into the points to remove any cleaner that may remain after shining.

7. Replace the brush, check the needle alignment, and dust off the remainder of the dial. The looper is now ready to go.

What the Operator Can Do

After straightening and shining the points, the fixer should take a minute or two to show the operator how to take care of the points and make sure that she knows that it will be a long time before he straightens them again.

To keep her points and machine in good working order, the operator should follow these points:

1. Clean the points with Quick or a similar cleaning compound in the middle of the week and at the end of the week. Apply a small amount of cleaner to the points, let it dry, and remove it with a soft cloth. For some operators, this job may be done once weekly; and it keeps the points smooth and shiny indefinitely.

2. Clean lint off the machine daily. Clean the machine thoroughly at the

CONTINUED ON PAGE 151

Valley Mills Combines OPENING and PICKING

Valley Mills, Inc, Columbiana, Ala., combined old opening and picking rooms into one department and modified the equipment. Results—

- Labor costs cut 50%
- Easier maintenance
- Chokes reduced
- Quality improved

By GUS GUGGENHEIM, JR.

Valley Mills, Inc., Columbiana, Ala., recently completed the construction of a new opening room that combines all opening, cleaning, and picking operations. The new room is part of a mill-wide modernization program in progress at the present time.

The Valley opening room was originally located some 50 to 60 ft. behind the picker room in a separate building. This location meant that the stock in process had to be transported through an air duct between the two rooms. The air duct, being in the open air, frequently choked and was generally a nuisance.

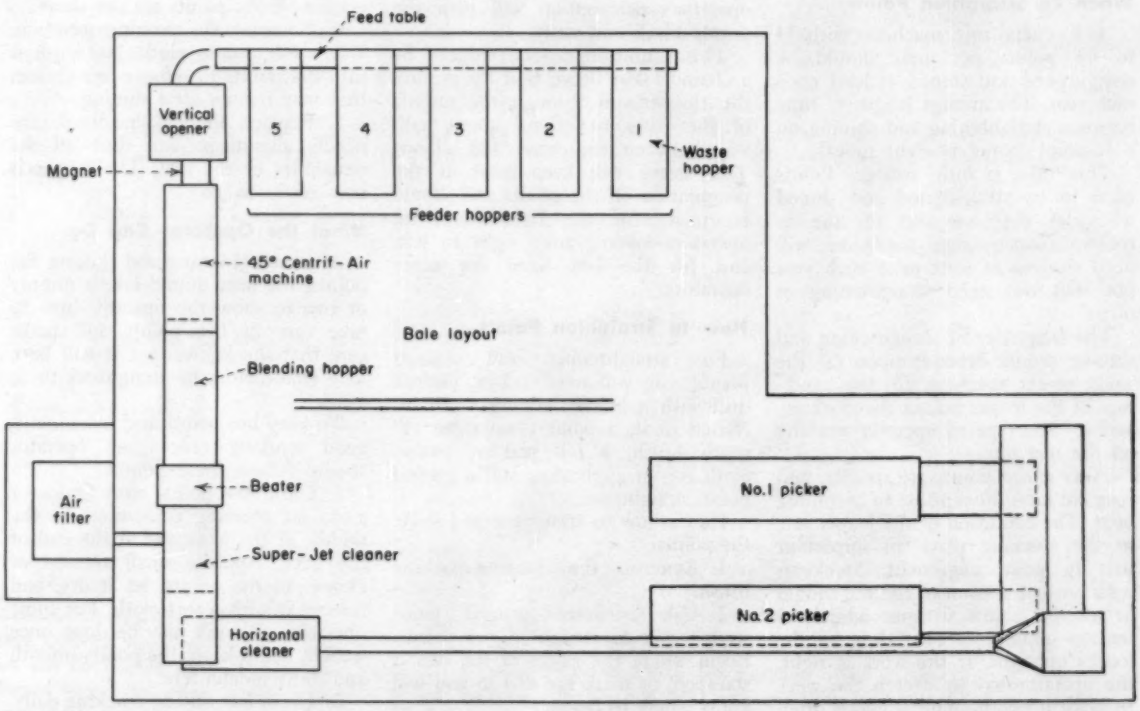
In addition, the separate opening room required the services of a special operator to feed the hoppers.

The diagram shows the new floor plan for opening and picking. This layout requires only one operator and saves the mill 50% labor costs in the department.

Of the five opening hoppers used, the first is a waste hopper. Two of the regular hoppers are equipped with conventional combing rolls. The other two hoppers are equipped with sargent combs that have a double row of pins. Card strips are opened easily by the reciprocating action of the sargent combs.

The opening hoppers drop the stock onto a rubberized-fiber conveyor-belt feed table. The surface speed of the feed table is approximately 400 ft. per min.

This rather high surface speed keeps to a minimum the clumps of fiber being fed to the next piece of cleaning machinery. Stock that drops out of the first hopper stays on the feed table less than 3 secs. Consequently, there is small likelihood that another clump will fall out of one of



OPENING AND PICKING LAYOUT makes it possible for one man to run entire room with a minimum of travel between feeder hoppers and pickers.

the other hoppers on top of the clump from the first hopper.

All the opening hoppers were modified by Valley Mills personnel so that the stock level in the hopper is kept constant. This modification, which is a hinged, counterweighted, sheet-metal-covered frame, swings inward as the stock runs out of the hopper. The movement is a signal to the operator that the hopper's stock needs replenishing. The device is shown in the photo at the right.

COUNTERWEIGHTED FRAME swings inward when stock runs out and signals the operator to add more cotton.

Magnet Is in the Opener

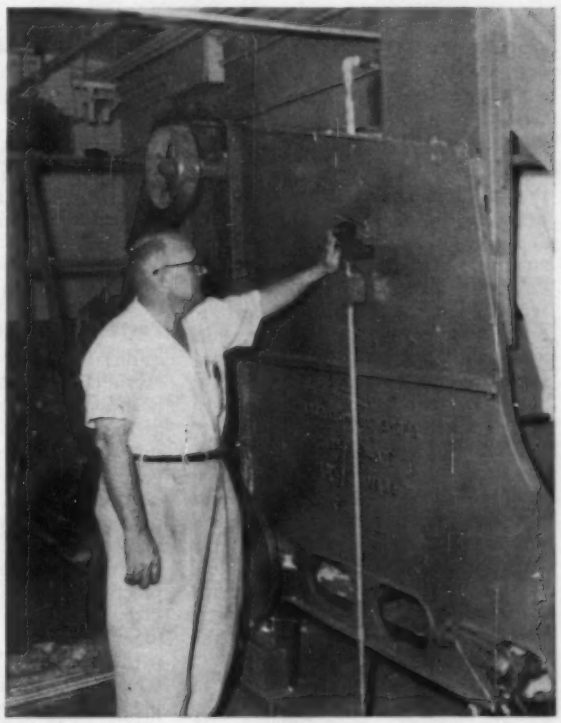
The next piece of cleaning machinery is a Saco-Lowell vertical opener. This machine has been modified by replacing the conventional screen section with a hump magnet, apparently an odd place for a magnet. However, judging from the amount of tramp iron trapped, the low frequency of fires, and the smoothness of operation, it is unlikely that a better place could be found for the hump magnet in this opening line.

The stock drops from the hump magnet into a Centrif-Air cleaner. This machine is a 45° cleaner that removes a considerable amount of trash and dust and further opens the stock.

An old bale breaker was modified by the mill to act as a blending hopper. The lifting apron was slowed down and every other slat removed. A level control, consisting of a rake and a mechanically actuated switch, was built into the hopper. The switch on the side of the blending hopper controls the operation of the opening hoppers.

The idea behind the hopper's modification was to improve blending in the cleaning line. An added feature is a more-level feeding to the picker hoppers.

The blending hopper lays the stock onto the feed apron of an Aldrich beater section that feeds to an Aldrich Super-Jet cleaner. The jet cleaner removes a considerable quantity of trash, leaf, stalk, and immature fiber from the stock through an air-blasting action.



MODIFIED BLENDING HOPPER has a built-in level control that actuates a switch to control the operation of the opening hoppers.

Cleaner Has Six Beaters

The stock passing through the jet cleaner falls into the final piece of cleaning machinery, a horizontal Centrif-Air cleaner. This machine is equipped with six beaters that drag the stock across open-mesh screens. The beaters impart a cleaning and opening action to the stock similar to that of the 45° cleaner previously described.

After passing through the horizontal Centrif-Air cleaner, the stock moves via an air duct through a condenser and Lummus gyrator-and-distributor system to the picker hoppers. The pickers are equipped with Aldrich change-overs. Each picker produces a 14.5-oz., 48-yd. lap at 385 lbs. per hr.

The opening-and-picking layout was designed to permit the operator to watch every machine in the room from a central location and to travel the shortest possible distance between the delivery end of the pickers and the feed end of the opening hoppers. The arrangement saves the operator much time in moving from one phase of his job to another.

The operation of the pickers at Valley Mills is subjected to intense quality control. Laps are tested periodically on a Saco-Lowell lap tester. The upper control limit for laps is 1.25% coefficient of variation. To reach this rather tight limit, the pickers were thoroughly cleaned and overhauled.

All gear covers were removed, and gear teeth were picked clean. Bearings were checked and replaced where necessary. Evener-motion chains were checked for stiff links and proper length. Gears and sprockets were replaced where wear appeared to be excessive. New chain drives were put on the lap rolls.

Many of the lap sticks were found to be of different weights or lengths, which made the accurate weighing of laps impossible. To correct this situation, all lap sticks were weighed; and sticks that were not standard weight were modified and brought back to standard.

Pins and Pedals Changed

New sets of pins and pedals for the evener motions were indicated by the fact that small changes in weight of the stock had no visible effect on the speed of the synchronizer cone. A close inspection revealed that the pedals showed wear in several places; and the pins, which should be sharp, were quite dull. These factors introduced lost motion.

Finally, a complete gearing diagram was made of both pickers, and drafts at each intermediate point were calculated. Where the calculated drafts did not agree with good operating procedure, gears or pulleys were changed.

Fitting Parts With BEARINGS Pays in This Weave Room

• In the constant search for ways to cut costs and improve efficiency, one mill found it pays to salvage some loom parts. Here's how the use of self-lubricating bearings helped save some parts and actually improved others.

By **WILMER C. WESTBROOK,** Assistant Editor, TEXTILE WORLD

THE BORE AND BEARING SURFACES of some loom parts such as whip-roll bearings, intermediate gears, harness sheaves, and treadles wear out and are discarded although the balance of the part is as good as new. One mill made a study of its loom replacement parts in an effort to salvage some of them. The results were gratifying, and the project was found to have possibilities for cost and labor savings as well as improved efficiency of the looms.

First, it was determined which parts could be salvaged; second, what would have to be done to the part to make it usable; and third, cost and time values were studied to see if a saving was possible on each individual part. It was found that wear occurs in a small area on most loom parts but that such wear often renders the entire part useless.

The most practical method of renovating many of the parts was by using a bushing or bearing. However, it was learned that the cost of a new part in some cases was less than the cost of reworking it. An example is the tape-salvage roll; a self-lubricating bearing costs twice as much as a new roll.

Parts Are Rebuilt in Shop

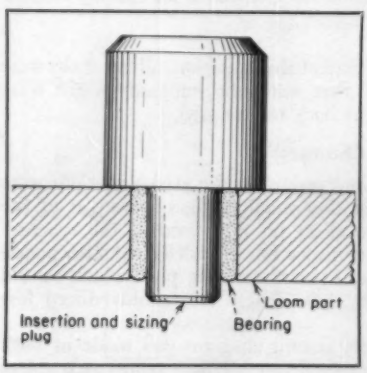
But for large machine parts, such as the Roper let-off ratchet wheel, a bearing costs only a fraction as much as the new part; and if the teeth are not worn, this part can be made as good as new by the insertion of a bearing. In fact, the use of bearings makes many parts better than new because of the self-lubricating feature.

The salvage program as put into practice was for the loomfixers to take the worn part to the supply room when they requisitioned a new part. The supply clerk determined which parts were reworkable and put them in a box to be carried to the machine shop. When rebuilt, the parts were returned to the supply room for issue to the loomfixers. Any of the salvaged parts could be requisitioned without the cost being charged against the loomfixer's section.

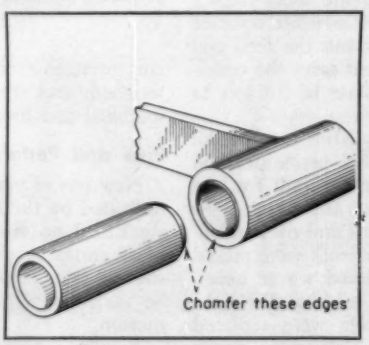
The powdered-metal, self-lubricating type of bearings has proved practical over a period of several years on many parts of the company's 2,000 looms. Places where they have not been practical are parts that have undue strain, stress, or impact. Although the bearings have a tensile strength up to 18,000 psi., the metal is soft and somewhat brittle.

Oil Is Metered to Surface

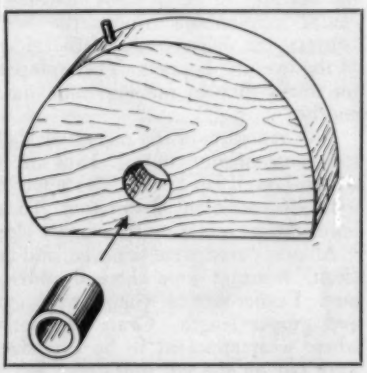
The bearings are obtainable in stock sizes. The metal is porous and will hold about 20% of its weight of oil like a sponge. When heat is generated by friction, oil is metered to the bearing surface by capillary



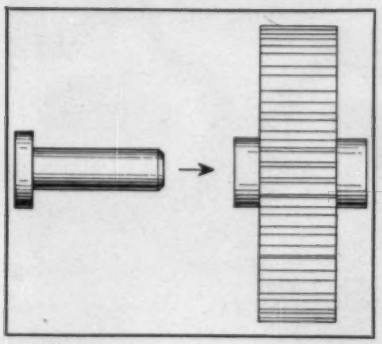
PLUG that is a snug fit in bearing is used to press the bearing into place.



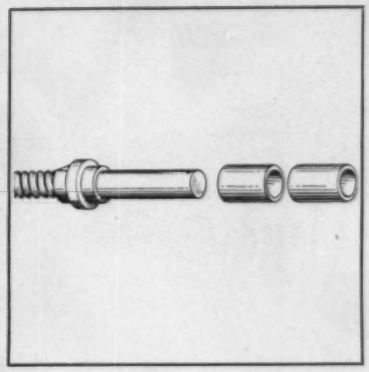
CHAMFER or bevel all leading edges of bearing and loom part for easy insertion without scarring.



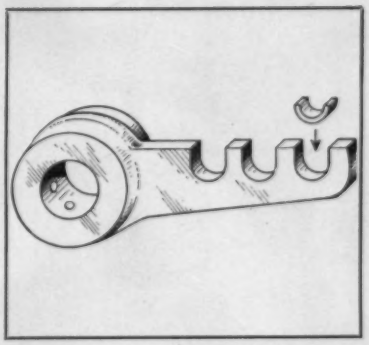
BEARINGS of powdered metal can be used for surfaces of wood as well as metal.



GEARS and some other loom parts can sometimes be better fitted with flange bearings.



STUD for pick change gear can be cut down and fitted with float-type bearings.



WHIPROLL BEARINGS and some other loom parts use a self-lubricating bearing sawed in half.

action; and when the surface cools, the oil is reabsorbed.

When the loom part was not damaged and nothing was worn except the bearing surfaces, it was found practical to ream out and insert bearings in the following parts:

Brake shoe
Take-up-roll bearing
Driving rod
Beam lever shaft bearing
Protector rod center bearing
Center-fork push rod
Shuttle feeler
Upright lever
Beam lever roll
Vibration rod lever
Rocker shaft bearing
Pallet lever
Let-off pinion shaft bearing
Transferrer
Knock-off lever
Oscillator rod end
Filling cam follower hub
Shipper handle
Pallet
Clutch cone
Ratchet wheel
Intermediate gear
Whiproll bearing
Controlling lever
Hold-back pawl
Bobbin disk
Oscillator cam follower
Treadles
Crank arm
Shipper lever
Selvage cam follower guide
Harness sheave
Internal gear
Change gear

Don't Drive Bearings

Additional uses and modifications of the bearings are constantly being discovered. Also, better ways of installation and storage have been worked out. A snug fit is needed, both between the reamed-out bore of the part and the shaft or other bearing surface.

When a bearing of exact size was pressed or driven into the bore, the bearing would be compressed and reaming would be necessary. Since grinding or filing the powdered metal often detracts from its self-lubricating qualities, it was found that a bearing with slightly oversize bore, pressed into place with a sizing plug, gave best results.

Lengthy storage of the bearings in a hot, dry room causes some of the oil to evaporate; and it was learned that best storage was in cool quarters and, when practical, to wrap in waxed paper. Wood, paper, and cardboard containers are not suitable because they will absorb much of the oil. If the oil has evaporated or become dissipated through use, the part can be reimpregnated by soaking in a good grade of SAE 30 motor oil. In fact, some of the smaller loom parts and unused bearings are kept stored in this mill immersed in containers of oil.

Float-Type Bearings Used

In addition to using self-lubricating bearings to reshape the bores of gears, bearings, and pivot points of levers, the mill found that some installations actually improved the original loom parts. The drives of some 44-in. XP model looms were not operating as they should, and examination showed that the crank shafts and the bore of the clutch cones were worn so that the cone would not slide easily on the shaft.

The driving clutch cones were reamed out for a loose fit on bearings slipped on the crank shafts. This made a floating bearing arrangement wherein the bearing could revolve around the shaft, the cone could revolve around the bearing, and the cone could also slide with a minimum of friction and wear.

Another simple floating-type installation found to be practical was that of placing two bearings on the change-gear stud. Worn studs were turned down on the lathe to take the bearings, and the problem of stuck or frozen pick change gears was solved.

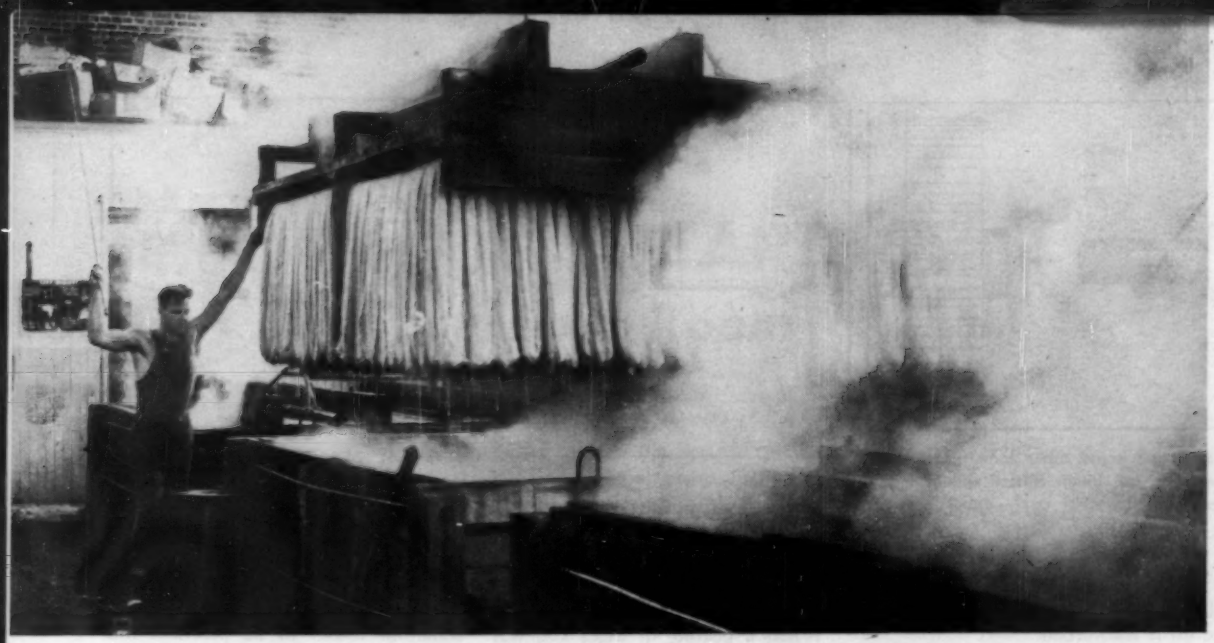
Bearings Reduce Downtime

Formerly, the mill had a problem with harness sheaves. Overshots, harness balks, and breakage of harness connections were caused by worn and sticking sheaves. To overcome this condition, it was necessary to take down, clean, and often replace the sheaves every few months. This procedure caused much downtime of the looms and required considerable labor, and second-quality cloth often resulted from overlubrication.

The installation of self-lubricating bearings has greatly prolonged the life of the sheaves, reduced the maintenance job by half, and practically eliminated oil dripping from the sheaves.

After several years of planned use of self-lubricating bearings in its looms, this mill has realized the following advantages:

1. Many parts can be made as good or better than new at a fraction of new part cost.
2. The serviceable life of many loom parts is more than doubled by the installation of the bearings.
3. The porous oil-impregnated metal of the bearings forms a hydraulic cushion that helps absorb shocks and impact.
4. Oil is retained in the metal and makes the lubrication chore easier. There is less oil drip to spatter on warp and cloth.
5. The use of self-lubricating bearings reduces friction, and the loom parts operate more freely with less power.



YARN DYEING for contract-carpet work is done in Hussong machines carrying up to 2,500 lbs. of yarn per load.

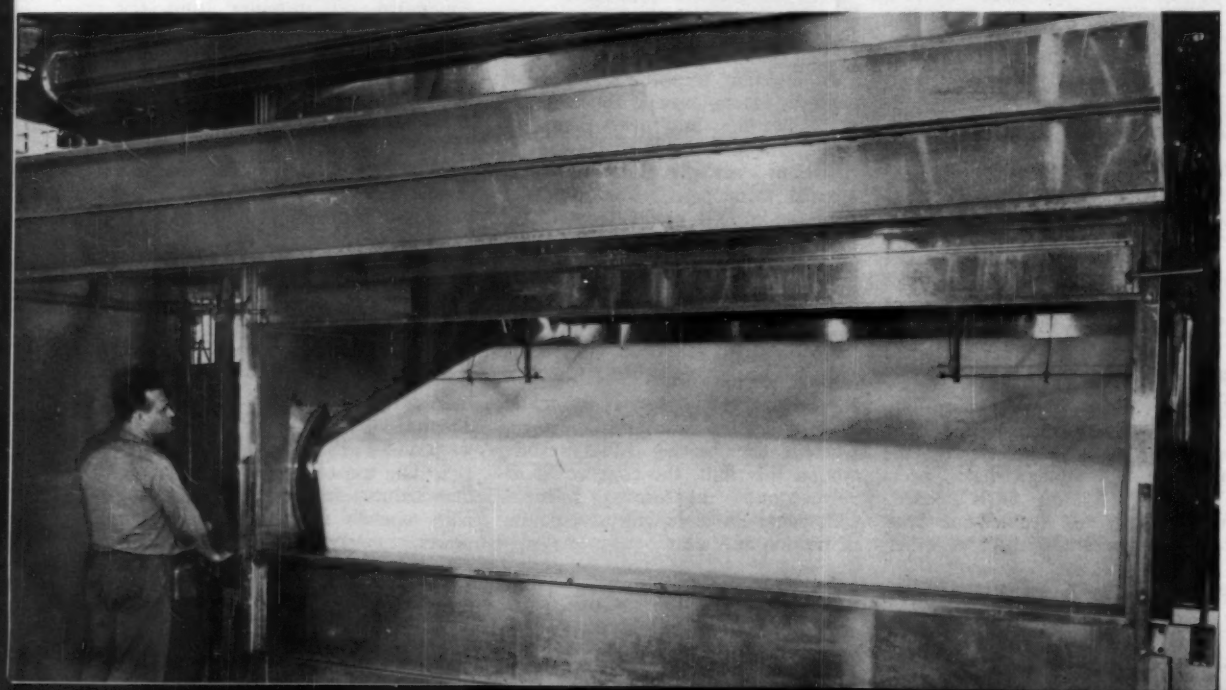
How One Mill Dyes Quality CARPETING

Light shades in plain-surfaced wall-to-wall carpeting now popular present new problems to the dyer. This plant meets today's requirements with—

- Dyes of better all-round fastness
- Antisoiling finishes

By **ROBERT W. PINAULT,** Assistant Editor, TEXTILE WORLD

TUFTED CARPETS up to 18-ft. woven width are dyed in a battery of Rodney Hunt dyeing machines. Split breast roll is equipped with spirals. Each side is driven independently so that the carpet is kept open and centered in the machine.



YARN is dried on poles conveyed through the dryer in one pass. The temperature is kept at 220° F. to avoid harshening the wool.

ONE OF THE LARGER RUG MANUFACTURERS is meeting today's demand for fast-color carpets by using the most recently developed dyes and methods. Not so many years ago, the primary requisite of a carpet color was lightfastness. But the increasing demand for pastel shades in wall-to-wall ranch-house carpets brought up the wetfastness angle. Dirt and stains eventually accumulate and generally require local washing to remove; so this plant has developed dyeing methods that meet the requirements of today's customers.

Carpet wools are selected for coarseness and resiliency. Practically all the wool used in the better carpets is imported from South America, the Mediterranean area, or Scotland. Chinese wools were much used but have become increasingly difficult to obtain.

Depending on the end use, the wools are spun into 3/30s, 3/40s, 2/50s, and up to 1/120s.

The bulk of the wool is stock dyed; but for carpets that go to contract work, skein dyeing is preferred. Contract work includes carpets for hotels, theaters, and other public places and is generally woven to the customer's order and design.

Here's a Skein-Dyeing Routine

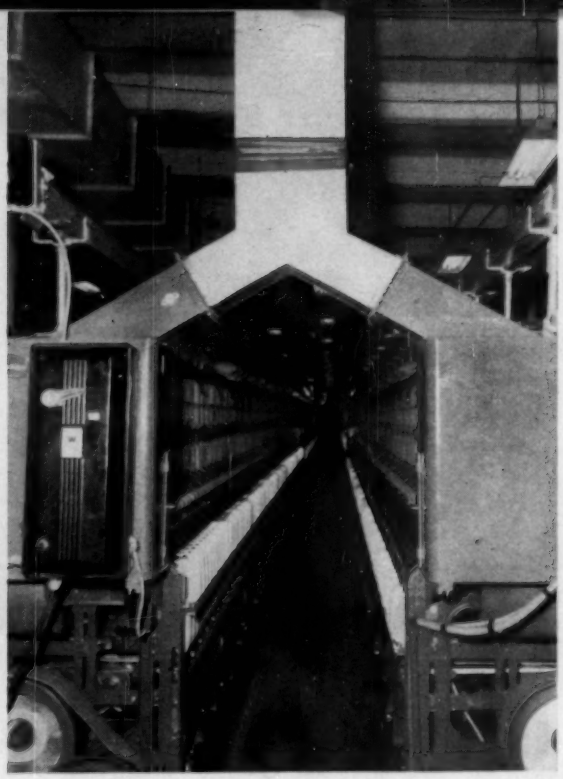
The wool is first scoured in a conventional four-bowl wool-scouring train. In the first bowl soap, a synthetic detergent and soda ash are used to remove excess wool oils. Temperature is kept at 130 to 140° F. The second bowl carries detergent and soda ash at the same temperature, and the third and fourth bowls are used for rinsing. Rinse water is kept at 100° F.

The skeins are transferred to poles and loaded onto the rack of a Hussong-Walker-Davis machine. The plant has

CONTINUED ON PAGE 236

ROLLER COATER applies latex backing to many styles. The double rolls used in this machine insure a heavy application in one run. The thickness of the coating is controlled by the usual doctor blade.

SPINNING was changed over to the Super-Draft system with CleanAlign top rolls. Overhead cleaners were added.



PNEUMAFIL DUCTS were built in an arch over the spinning frames to keep from cluttering up the room.

Harriett Modernizes Two SPINNING ROOMS

Harriett Cotton Mills, Henderson, N. C., as part of a $1.8-million modernization program, has revamped the spinning departments of Mills 1 and 2. Highlights—

- **140 spinning frames modernized**
- **25 new winders installed**
- **64 new twisters added**

By WILLIAM G. ASHMORE, Associate Editor, TEXTILE WORLD

HARRIETT COTTON MILLS, Henderson, N. C., recently revamped its two spinning mills as part of a continuing modernization program that has been in effect for the last 20 years. The current program cost $1.8-million.

No. 1 Mill produces about 100,000 lbs. of 6s to 18s (average number 11s) carded knitting yarn per 120-hr. week. No. 2 Mill is on finer numbers; 100,000 lbs. of 16s to 30s (average 22.9s) are spun weekly.

Latest improvements for the two mills, which are adjacent to each other, include a joint opening room for both plants, additional cards, new drawing, new one-process roving, modernized spinning, new winders, and new twisters.

Probably, the most important phase of the modernization concerns the spinning improvements.

Frames Are Modernized

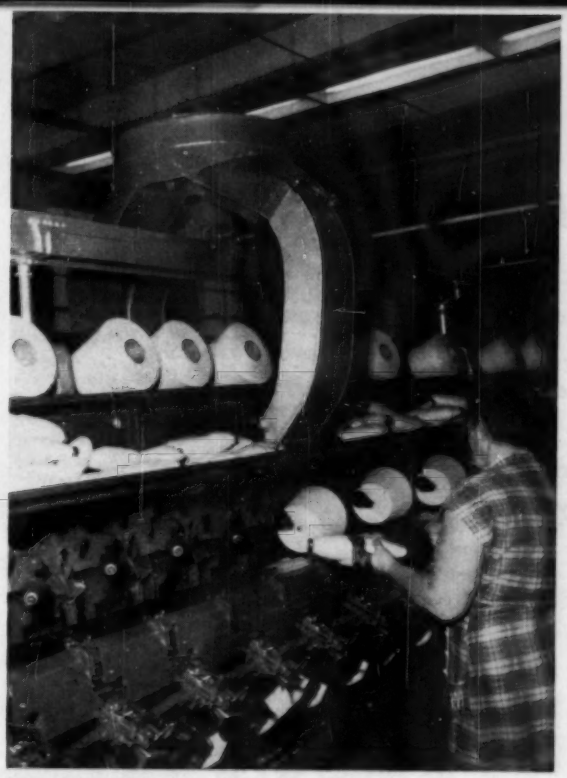
Spinning frames in both mills were changed over to the Whitin Super-Draft system with CleanAlign top rolls. Pneumafil and Parks-Cramer overhead cleaners were added.

Mill No. 1 converted 44 Whitin Model F frames to 4-in. gauge, 2¾-in. rings, and 10-in. traverse. Ball-bearing spindles were added.

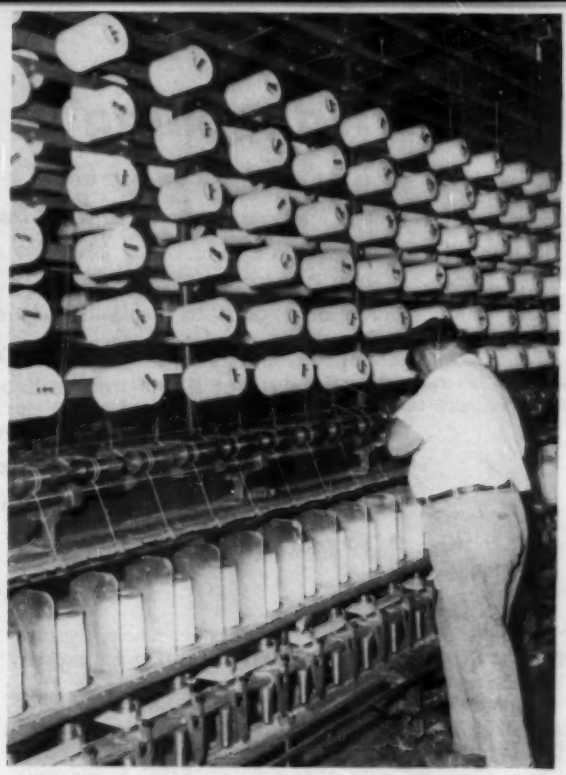
The 1.20-hk. roving is spun into an average of 11s single knitting yarn, and ends down run 15 to 20 per thousand spindle hours.

Mill No. 2 modernized 96 Model F frames. Thirty-two of the frames have a 4-in. gauge, 240 spindles, and 2⅜-in. rings. The other 64 frames have a 3¾-in. gauge, 252 spindles, and 2-in. rings. The 4-in.-gauge frames have an 8-in. traverse; the 3¾-in.-gauge frames have a 7½-in. traverse.

The 1.50- and 2.00-hk. rovings made in Mill No. 2 are spun into knitting



NEW WINDERS, equipped with traveling cleaners, were installed in both mills. A total of 25 machines were added.



SIXTY-FOUR TWISTERS were put in Mill No. 2 to make 12-, 16-, and 24-oz. packages of plied yarns.

yarn that averages 22.9s. Ends down are 20 to 25 per thousand spindle hours.

Old winders were replaced in both mills. Ten Model 102 Foster winders were put in Mill No. 1 to wind cones and tubes.

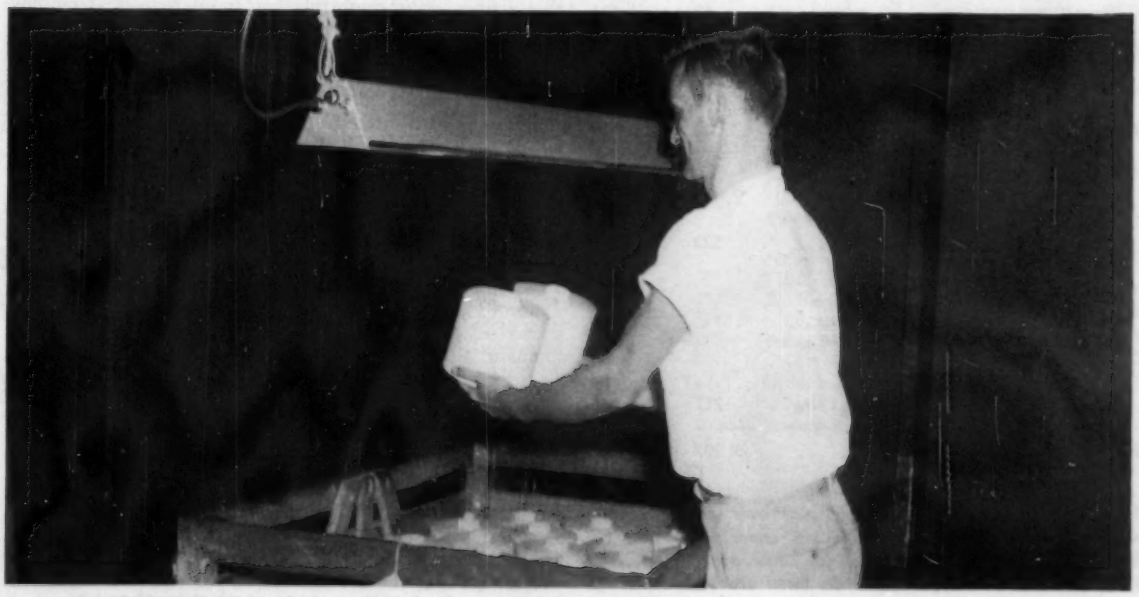
Seven Model 44 Roto-Coners, four Model 35 Foster winders with an 8-in. traverse, three Model-102 Foster tube winders, and 48 ends of Model 77 Foster winders with an 8-in. traverse were installed in Mill No. 2.

One new Cocker beam warper and three new Cocker ball warpers were installed in Mill No. 2.

Twisters Are Installed

Sixty-four new Whitin twisters were put in Mill No. 2 to make 24-, 16-, and 12-oz. packages. All frames were equipped with Parks-Cramer overhead cleaners.

These changes, along with carding improvements, have increased production, improved quality, and cut costs. Manhour production at Harriett has increased 167% during the last 20 years, and further improvements are expected this year.



YARN is inspected under ultraviolet light in the new examining room built specifically for the purpose.

What's Happening to JAPAN'S TEXTILE INDUSTRY

Limits on exports to the U. S. take away one of the easy solutions to the problems of Japan's textile industry. The industry has grown incredibly since World War II, but trouble is brewing. Some of the facts are:

- **There are 47,000 mills in Japan**
- **Ten of the cotton-spinning companies have 63% of the total spindles**
- **Japan has too much mill capacity**
- **Foreign markets are shrinking**

JAPAN'S CURRENT PROSPERITY has been helped greatly by the recent boom in textile production and exports. But all is not rosy in the Land of Flowers.

About 47,000 textile mills, ranging from tiny home workshops to large modern plants, are operating today in Japan—and the number is growing all the time. This figure, compared with approximately 5,000 textile mills in the United States, appears fantastic.

Even more remarkable is the recovery and growth of the Japanese industry since the end of World War II. There were less than 3,500 plants running in 1946. Today, Japan is the world's largest textile exporter.

Textile Establishments

	1946 (Dec.)	1956 (Aug.)
Plants		
Synthetic fiber (except rayon)	.....	12
Rayon staple and filament	16	23
Spinning		
Cotton	60	221
Wool	63	421
Spun silk	13	10
Spun rayon	10	90
Hard and bast fiber	.....	12
Waste yarn	.....	2,099
Weaving		
Cotton and synthetic fibers		
Weavers with spinning	50	116
Weavers without spinning	2,475	12,796
Silk	.....	23,211
Wool	533	3,160
Hard and bast fiber	.....	96
Knitting	.....	4,415
Rope and cordage	.....	224
Fish net and twine	.....	138
Dyeing and finishing		
Worsted and woolen	.....	84
Other fabrics	217	533
Total	3,237	47,661

TEXTILE ESTABLISHMENTS actually total over 53,000 plants, according to available information, but about 5,500 of them fall into apparel-manufacturing and other nonprimary-textile categories. The majority of the mills listed are home-workshop enterprises.

"Home" Mills Flourish

Obviously, the large number of textile units does not mean much, since most of them are backyard enterprises. Nevertheless, the figures in the table showing a breakdown of textile establishments are interesting. For example, there were 311 cotton and rayon spinning mills and nearly 13,000 weaving establishments in the cotton and synthetics branch of the industry listed in August, 1956.

During the war, only 10 major spinning companies were permitted to operate. In 1955, these companies, known as the Big Ten, owned 4.8-million spindles, or 63% of the total. The figure is probably higher today. Nine of the 10 companies have mills with 30,000 to 100,000 spindles each. The average is about 60,000 spindles.

There are 33 other mills with more than 30,000 spindles, and 107 mills have an average of 19,000. The remainder are quite small.

The Big Ten controls approximately 20% of the looms on cotton and staple fiber; and 85% of these looms are automatic. Of the 13,000 mills weaving cotton and synthetic fiber, it is doubtful that more than 150 employ over 300 workers.

An independent survey made in 1955 by the Primary Textile Institute of Canada showed only 143 mills of the 9,453 then listed as employing more than 300. Yet these mills accounted for 40% of the total production. In the knitting branch of the industry, only 8 of 3,600 mills employed 300 or more at the time of the survey.

A truer picture of the industry is indicated by the table showing spindles and looms in place. There were about 8.6-million cotton spindles whirring away in 1956, compared with 2.6-million in 1946 and 11.6-million in 1940. The same story holds for cotton looms: 368,429 in 1956, 134,031 in 1946, and 392,937 in 1940. An interesting sidelight is the fact that more than 63,900 hand looms of all kinds are in use today.

Quality Improves

More significant perhaps than the physical recovery of the industry is the trend toward higher-quality goods. The controversial decision of the General Agreement on Tariffs and Trade organization accounts partly for this trend. However, the upgrading of quality started well before the Geneva hearings.

For example, the average cotton-yarn number increased in fineness from 27.2s in 1951 to 30.5s in 1955. In some

Spindles and Looms

	1940	1946	1956	
Spindles				
Cotton	11,648,909	2,632,256	8,570,944	
Spun rayon and other synthetics	557,558	173,724	2,480,866	
Silk	378,416	193,534	102,820	
Wool and worsted	1,628,554	387,990	1,280,009	
Hard and bast fibers	168,582	157,968	174,716	
Total	14,482,019	3,545,472	12,609,355	
Looms (power)				Hand looms
Cotton				
Weavers with spinning	114,005	30,482	78,841	.....
Weavers without spinning	278,932	103,549	289,588	14,728
Total	392,937	134,031	368,429	.....
Silk and synthetics	332,569	137,802	207,673	48,218
Wool and worsted	28,757	11,231	25,689	202
Hard and bast fibers	9,185	14,098	6,294	846
Grand total of all looms	763,348	297,162	608,085	63,994

SPINDLES AND LOOMS are rapidly approaching prewar levels; but unless new markets are found, the peak is about reached. One big problem facing Japan is what to do with excessive productive equipment.

of the larger mills, such as Kureha Spinning Co., Ltd. the average number is even higher. This company averaged 35.1s in 1955. The Big Ten's average range is 32s to 34s. Yarn quality improved along with fineness.

Over 42% of the cotton yarns exported in 1953 were under 19s; the percentage dropped to 18.9% in 1955. At the same time, exports of 20s to 60s increased substantially.

Japanese textile mills are experimenting with fiber blends of all kinds and are producing a number of blends that are said to be quite satisfactory. Dai Nippon and Daiwai spinning companies are producing fabrics of 50% cotton and 50% Vinylon for sportswear. Kanebo recently brought out a raincoat made of a synthetic-fiber blend that is said to be lighter in weight and more wrinkleproof than coats made from blends of nylon and acetate. Toyo, Kanebo, and Nitto are testing blends of cotton and Terylene.

Rapid progress has been made in the improvement of spinning and weaving techniques; but dyeing, bleaching, and finishing methods have not advanced as fast. Some progress, however, has been made.

In recent years, the standards for fast-color dyeing and printing were raised for both domestic and export fabrics; and production of colored and finished fabrics increased substantially.

The average monthly consumption of vat dyes increased from 3.6 metric tons in the second half of 1952 to about 12 tons in the same period of 1955. More continuous-dyeing equipment is being put into use.

Compressive-shrinkage has been widely adopted, as shown in the table concerning U. S. technical assistance to Japanese mills. Preshrunk fabrics for export, especially to the United States, are considered a must. Resin and other treatments for improving the quality and hand of cotton fabrics are now being used by many Japanese mills.

Trend Is Toward Synthetics

Another significant trend in the Japanese textile economy is the increasing emphasis on the production and use of synthetic fibers. Prior to World War II, cotton textiles constituted 80% of total textile production, wool 13%, man-made fibers 6%, and silk 1%. Today, cotton represents 70% of total production, man-made fibers 20%,

Textile-Machinery Production

	1953	1954	1955	1956
Machinery				
Cotton and synthetic-staple spinning frames	10,896	13,477	6,791	6,912
Silk and rayon looms	12,489	11,050	16,648	10,399
Cotton looms	23,386	32,323	16,950	9,312
Wool and worsted looms	3,104	1,676	2,764	1,266
Cards	4,260	5,571	2,280	2,636
Knitting machines	13,689	10,135	16,009	10,401

TEXTILE-MACHINERY PRODUCTION has been curtailed because of saturated domestic markets and loss of export trade. There are said to be 1.4-million spindles and 140,000 looms in excess of present requirements.

Technical-Assistance Contracts

U. S. Co.	Japanese Co.	Service Offered	Expiration date of contract
American Cyanamid Co.	Japan Exlan Industry Co.	Acrylic-fiber manufacture	....
Joseph Bancroft & Sons Co.	Takase Some Kojo Co.	Everglaze-process license	1966
	Kanegafuchi Spinning Co., Ltd.	Everglaze-process license	1967
	Daido Senko	Everglaze-process license	1967
	Toyo Spinning Co., Ltd.	Everglaze-process license	1967
	Nippon Clothing Industry Co., Ltd	Everglaze-process-license for synthetics	1969
	Hamoguchi Senko	Everglaze-process license	1970
Cluett, Peabody & Co., Inc.	Toyo Spinning Co.	Sanforized-process license	1957
	Kanegafuchi Spinning Co., Ltd.	Sanforized-process license	1957
	Nissin Cotton Spinning Co., Ltd.	Sanforized-process license	1958
	Kureha Spinning Co., Ltd.	Sanforized-process license	1958
	Toyo Seni Co., Ltd.	Sanforized-process license	1958
	Homaguchi Sanko	Sanforized-process license	1958
	Isshin Sarashi Kogyo	Sanforized-process license	1958
	Daiwagawa Senkojo	Sanforized-process license	1958
	Kuraski Spinning Co., Ltd.	Sanforized-process license	1959
	Daido Senko	Sanforized-process license	1959
	Nitto Boseki Co., Ltd.	Sanforized-process license	1960
	Dai Nippon Spinning Co., Ltd.	Sanforized-process license	1961
	Daiwa Senko	Sanforized-process license	1961
	Kyoto Sarash Some Kogyo	Sanforized-process license	1961
	Homano Dye Works	Sanforized-process license	1961
Celanese Corp. of America	Ryoko Acetate Co., Ltd.	Acetate-filament manufacture	....
John B. Stetson Co	Tokyo Hat Co., Ltd.	Fur-felt-hat-process license	1958

TECHNICAL-ASSISTANCE CONTRACTS with U. S. firms indicate that every effort is being made to improve quality of goods, especially the finish.

wool 11%, and silk 1%.

This shift in the textile-production pattern is partly due to the fact that India has cut deeply into Japan's market for cheap cotton-textile exports and more recently to American resistance to Japanese cotton goods. The high cost of imported cotton is another reason for increasing man-made-fiber production.

Japan produced 424-million pounds of rayon staple, filament, and tow during the first half of 1956, indicating an annual capacity of at least 8.5-million pounds. This figure makes the country one of the world's largest producers of rayon.

The best available information indicates that production of synthetic (noncellulosic) staple fiber will exceed 30-million pounds in 1956, compared with 19-million pounds in 1955. Production of synthetic filament yarn may total 25-million pounds for the year, an increase of 9-million pounds. Production of synthetic spun yarn is expected to reach the 45-million-pound mark, a 16-million-pound increase over the previous year. From 250- to 300-million pounds of synthetic fiber and yarn are expected to be produced annually by 1960.

At the present time, synthetic fibers in production include acetate, nylon, Vinylon, and Saran. Darlan, Creslan, and Terylene are expected to be added shortly.

U.S. Firms Give Aid

Japanese preoccupation with the development of synthetic textiles is mirrored in the substantial amount of technical aid being given Japanese firms by American companies. For example, Celanese Corp. of America last July joined the Mitsubishi Rayon Co. in forming a new enterprise called the Ryoko Acetate Co., which will produce acetate fiber.

Significantly, the U. S. concern will put up 150-million yen (360 yen = $1) of the 600-million-yen capital required. This is one of the few instances where foreign-capital investment has been permitted by the Japanese government in the last few years, and it is the only one in the textile field. At present, Japan must import most of its acetate fiber.

Celanese Corp. will provide technical aid and receive royalties of 2% from the sale of acetate products over a period of 15 years. Royalties are expected to amount to more than $1.8-million. The new firm may import from $400,000 to $500,000 worth of machinery and equipment from the U. S. Immediate production goal is 5 to 10 tons daily, increasing to 40 tons within five years.

Acetate Filament To Be Made

American Cyanamid Co. also has a stake in Japanese synthetic-textile development. This company is giving technical aid on a 15-year, 4% royalty basis to Exlan Industry Co., a new company formed to manufacture cellulose-acetate filament. Organized last August by Sumitomo Chemical Co. and Toyo Boseki, Exlan is capitalized at 100-million yen and will start operations in October. Production will be one ton daily at first and five tons daily within two years.

B. F. Goodrich may grant technical aid in the next few months to the Nihon Geon Co. for the production of Darlan. Imperial Chemical Industries Ltd., a British firm, is expected to provide the Toyo and Teikoku rayon companies with the know-how of Terylene production.

Machinery Producers Suffer

Most of the textile machinery used in Japan is new, and the quality is said to be good. Practically all of it is made in Japan. Machinery imports in 1955 amounted to only $8.3-million, of which $3.8-million came from the United States. Cost of Japanese machinery is 50 to 65% lower than comparable American equipment.

Japanese mill expansion was curtailed in 1952, which hurt the machinery industry greatly. To make matters worse, machinery exports dropped from $36-million in 1954 to $26.6-million in 1955, largely because of a drastic cut in orders from Pakistan. This country took half of Japan's machinery exports in 1954. In 1956, little more than parts and accessories was exported.

When mill expansion slowed, the more-progressive plants immediately improved techniques aimed at higher production. High-draft spinning change-overs, larger packages, and bigger cans were installed. Multiple-process roving was replaced with single-process frames. Overhead and suction cleaners were added. Direct spinning increased in popularity. O-M Spinning Machine Co. alone produced over 600,000 spindles of direct spinning in recent years, and most of them were installed in Japanese mills.

Current production of cotton yarn and fabrics is about 70% of the prewar average, and the output of other textiles is 40 to 65% of this level; yet there is a definite surplus of spindles and looms for normal requirements. This condition in part accounts for Japan's desperate efforts to increase exports to the United States.

A six-year economic plan, adopted in 1954, indicates an excess of 1.4-million spindles and 140,000 looms; and the situation is not expected to improve before 1960.

The Comprehensive Textile Industry Counter-Measure Deliberation Council was set up in August, 1955, to find an answer to the excessive-machinery problem. Result of the deliberations was to propose a textile-industry-stability law that will require registration of all installations and excessive equipment. Every effort will be made to prevent undue hardship for any firm, especially the smaller ones, if equipment has to be liquidated.

Japan Has Cycles, Too

The textile-business cycle in Japan generally paralleled the American cycle in recent years. Prices of yarn and cloth started down in 1954. Production of cotton yarn was curtailed in an effort to bolster prices. There was an expensive stockpile of 500,000 bales of cotton on hand. Despite efforts to increase exports, prices kept dropping.

But by November, 1955, the extra cotton was used up; and exports, especially to the United States, were on the upswing as a result of GATT activities. During 1956, domestic consumption and exports continued to increase, and prices went up.

Today, the industry is in an excellent position price-wise, and curtailment has been lifted. In fact, Japan is enjoying a textile boom. But there are dark clouds hanging over the boom.

Problems Facing Japan

Japan's textile industry, as authorities see it, has three major problems and a host of minor ones facing it; and the economic future of the industry depends on how the country solves these problems.

1. **Excess machinery.** The extra spindles and looms must be liquidated or regulated unless new markets can be found or old ones enlarged. Machinery manufacturers must be aided in some manner.

2. **Exports.** Japan may be the largest textile exporter in the world today, but competition is increasing. Japan's low wage scale, long an ace in the hole, is not the potent tool it used to be. India pays low wages also, and that country is rapidly building up a textile industry. India already has cut deep into Japan's markets in some underdeveloped areas of the world.

CONTINUED ON PAGE 151

Weaving BROCADES On Single-Shuttle Looms

• Do you have a few dobby- or jacquard-equipped looms you aren't using at the moment? Then try styling up a few fabrics to be woven as single-shuttle brocades.

By LEON ZELDIS

BROCADES ARE USUALLY WOVEN with two or more shuttles of filling. But an imitation brocade can be designed to be woven with only one shuttle. Furthermore, the imitations designs will often increase weave-room efficiency and reduce production cost.

True brocades are made with: (1) a warp for a ground weave, (2) one shuttle to put in ground-weave filling, and (3) two or more extra shuttles to add filling for figures.

The extra filling is usually in contrasting colors that show on the face of the cloth only where they're needed. Then they float on the back of the fabric. Fig. 1 shows a typical true-brocade effect with the ground warp and ground-shuttle filling weaving plain. An extra shuttle and filling make a small design.

Dobbies Make Geometrical Patterns

Brocade fabrics are generally woven on looms with jacquards, but small geometrical patterns can be made easily with a dobby. If two or more pieces of filling yarn are used, a multi-shuttle loom is, of course, necessary. Long pattern chains may have to be used also.

When an imitation-brocade design is woven, only one shuttle of filling is required. The color of the filling must contrast with the color of the warp.

Two different fibers may be used instead of two colors; then the fabric can be cross dyed after it's woven. Any loom with a jacquard or dobby to weave the desired pattern can be used to weave imitation-brocade designs.

Brocades Can Be Made Two Ways

Two methods can be used to design imitation-brocade weaves. Method No. 1 starts with an even-sided ground weave such as a plain weave or a 2-2 basket weave. Then various motifs are designed by floating the warp over the filling or by floating the filling over the warp.

Fig. 2 shows a weave made with warp floats over a plain-weave background.

The weave in Fig. 3 is made with a 2-2 basket design. The figures are made with filling floats.

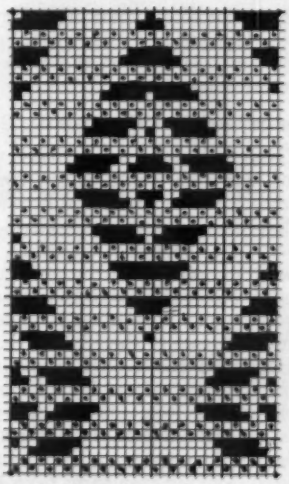
Warp and filling floats can also be used simultaneously to produce figures in two contrasting colors. Fig. 4 shows an example of this method, which is a plain-weave ground.

Motifs Can Be Made With Warp Rib

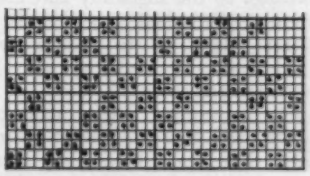
In Method No. 2, the fabric is started with the filling hidden below the face by using a warp-effect weave such as a satin or warp rib. Then the filling is floated on the face to make the figures.

The pattern in Fig. 5 is made with a five-harness satin ground weave with alternate filling floats on the face. This weave has been painted for face-down weaving. If a 1-1 filling arrangement is used, one light and one dark, for instance, the figures appear in different colors as alternately light and dark.

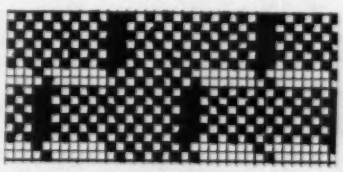
The same principles of design apply to both dobby weaves and the more-complicated jacquard patterns. And in every weave, only one shuttle of filling is necessary.



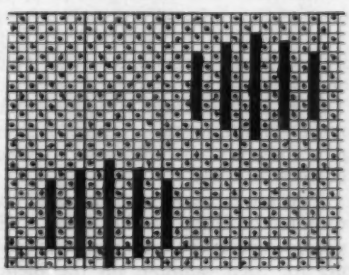
TRUE-BROCADE WEAVE is made with two or more shuttles of filling.



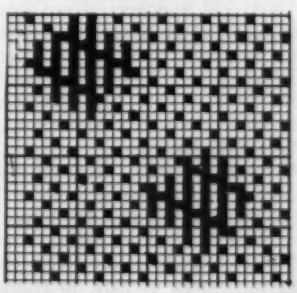
BASKET-WEAVE BACKGROUND is woven in 2-2 design with filling floats.



CONTRASTING COLORS make an imitation brocade over a plain weave.



SINGLE-SHUTTLE BROCADE is an imitation weave made with warp floats.



RIB WEAVE is a warp-effect imitation brocade with alternate filling floats.

Carding SYNTHETICS BLENDS On the Woolen System

Latest techniques in woolen-yarn spinning where synthetic fibers are blended with wool include—

- Adding emulsion to the fibers separately
- Using more fancy action
- Running cards at slower speeds

By WILLIAM J. CROFTS

WOOLEN-YARN-SPINNING-PRINCIPLES remain much as they were in the days of the spinning wheel, but the materials used in woolen spinning today have undergone a profound change. In ancient times, the only fiber used was hand-washed, sun-dried wool. Today, every textile fiber is incorporated in woolen blends.

Today's techniques of blending fibers on the woolen system offer a challenge to the ingenuity and imagination to introduce new blends for novelty effects or to reduce costs. Blends must be made up with the finished fabric in mind.

Heavily napped fleeces require a yarn with a high percentage of long fibers. Hard-spun flat-finished fabrics require yarns made almost entirely from medium-coarse and fairly straight wools.

Select Yarn for Fabrics

Rough tweeds need an imitation of the hand-spinning-wheel yarns made from many combinations of stock with nubs or slubs added for a rough pebbly effect. Fine, soft flannels are made from the choicer, fine, short wools, while the lower-priced flannels are made from combinations of wool stocks, synthetics, or cotton.

Many woolen blends might be compared to a mixture of concrete. Take, for instance, a fleece fabric blended with a percentage of reworks and some short, fine wool to act as a binder for added strength. The blend may have 60% fleece alpaca, 20% coarse mohair, 10% reworked wool clips, and 10% short, fine wool.

A stock of 100% fleece alpaca or mohair does not handle well in carding or spinning because the fibers lack the cohesive qualities of fine wools and they separate easily. The roving from such stock is hard to condense into a round, hard thread and does not draft well on the frame or mule.

Cement is a mixture of concrete combined with water and sand to bind the coarser gravel together into a solid serviceable product for highway or building purposes. A percentage of fine wool combines with reworked stock as a filler to bind the long, coarse fibers together into a yarn with a greater bulk.

This type of blend has better carding and spinning qualities and makes a better fleece fabric than a cloth made from alpaca and mohair alone because the fine, short fibers give a better foundation. This blend covers better, especially when the fabric has a cotton backing.

Use Nylon for a Binder

Garnetted and staple nylon and rayon and long-staple cotton can be used as a binder instead of fine wool. Nylon added to a wool blend improves the spinning efficiency and gives a smoother yarn in addition to greater strength. Reworked worsted clips may also be used as a binder to reduce the cost of the blend.

Hard-spun flat-finished woolens for men's suitings, where the blends are fairly coarse, long fibers, have extra twist to make a lean, hard thread to resemble the coarser grades of worsted fabrics. Making even yarns from these blends is not easy. Uneven yarn readily shows up in the cloth, and a good binder gives less breakage and more-even yarn.

In selecting stocks for blends, the shrinkage from vegetable matter, sand, and short fibers should be considered. The oil content from garnetted stocks must be estimated. These factors, plus moisture content, have a direct bearing on costs.

The buyer must keep in mind the running qualities of the stock. He should consult the carder and the spinner for their opinions on the blend. Sample pieces of the fabric should be made to assess the strength, texture, and pattern. Production speeds and end breakage must also be considered before arriving at a cost figure.

Watch garnetted nylon for fine, long threads. The woolen card will not card out such fine and strong threads.

Use Staple Nylon for Sweaters

A good yarn for sweaters can be made from staple nylon, Dacron, and fine wool. However, if garnetted nylon is substituted for the staple nylon, look out for trouble. Finished sweaters will show thin places caused by the wool and Dacron pulling away from the nylon in drafting.

When spinning production falls off through no fault of the card room, manipulation of the components in the blend will sometimes bring the yarn back to standard. Fine noil substituted for reworked wool will sometimes give gratifying results and a reduction in costs.

Increasing the fine wool content 5% in a blend of mohair, alpaca, reworked wool and fine wool and reducing the mohair and alpaca will increase production 20%. The increased cost of the blend will be about $0.33 per lb., but the added production will offset this cost.

An increase in fine binder stock will often carry a fiber along if the draft at the spinning frame is reduced by making the roving from the cards 5 to 10% lighter in weight.

Don't Wet Synthetic Fibers

Wool-synthetics blends need special handling in the blending room. Nylon, Orlon, and Dacron should not be wet down directly with emulsion; so the wool part of the blend should be completely run through the picker and all emulsion applied with an automatic spray oiler. The synthetic fiber should then be added and the

CONTINUED ON PAGE 226

Textile World

Annual Review of
New Equipment and Supplies and New Dyes and Chemicals

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New Dyes and Chemicals

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3. Auxiliaries 145

TO REQUEST FURTHER INFORMATION on any item described in this review, please use the Reader-Service card on p. 203. Refer to the number following each description.

1 YARN PRODUCTION

Many mills rebuilt or enlarged opening rooms during 1956, and much old equipment was replaced. However, there were no radical changes in the design of equipment for the cleaning operations. Some openers, lap controls, and condensers were improved.

The majority of mills have relatively modern picker rooms, but quite a few plants rearranged equipment layout last year or added pickers to reduce labor cost. Some smaller mills combined opening and picking so that one man can handle both jobs. More control instruments and moisture monitors were put to use. High-compression calender rolls that produce 85-lb. laps were introduced by one machinery company.

Some mills that specialize in quality sales yarn added cards to reduce carding speed. Many plants went to larger coiler heads, ball-bearing comb boxes, and pneumatic strippers. Improved stripper rolls that replace the reciprocating comb were introduced by one manufacturer. With these rolls, the doffer can run 98 rpm.

High-speed drawing was featured by a number of manufacturers, and many mills installed new frames or change-overs that run 300 ft. per. min. Frames equipped with suction cleaners were tested in many plants, and in most instances the equipment was bought by the mills. Some new frames have electric stop motions and special drives.

Drawing Frame Changes Cans

A foreign company introduced an improved drawing frame equipped with an automatic can-changing mechanism. Most of the new drawing uses cans up to 18x42 ins.

One new comber that runs 125 nips per minute was introduced, but there were few radical changes made in the mechanics of combing. Quite a few sales-yarn mills improved their combing departments, and some installed an extra line of drawing between carding and combing.

Many more large-package roving frames were installed during the year, although there were no significant changes in the equipment itself. Stop motions and cleaning systems were installed on many older frames.

A few mills eliminated roving entirely by installing equipment that spins yarn from drawing sliver. One of these plants makes a coarse yarn for shop towels; another spins combed yarns for men's hosiery.

Several new or improved drafting systems for spinning came on the market. Most of them feature spring weighting, antifriction rolls, and easy cleaning. Higher speeds and longer drafts are the trend.

One company offered a new spinning frame that is only 25 ins. in width. A foreign firm introduced a sliver-spinning frame that drafts up to 700.

Several new umbrella creels and suction-cleaning systems were put on the market. The trend in suction-cleaning systems is toward central collecting units.

Much of the new preparatory equipment was designed to handle blends of synthetic and natural fibers.

The chances are that 1957 will see the trend continue toward larger cans, higher-speed drawing, more suction cleaning, narrower frames, and higher-speed spinning.

Blending-System Door

Fiber Controls Corp., Gastonia, N. C., announced an improved weighing pan for its blending system. The door of the pan is pneumatically operated to lighten the weight of the pan so that 1-oz. measures of fibers can be dropped with close tolerances. (A-1)

Rag Cutters

Features of the redesigned rag cutters made by Taylor, Stiles & Co., Riegelsville, N. J., include a heavier feed roll, inclined end plates on the feed roll, and greater space between the cutting element and the frame.

The knife assembly now carries four blades instead of six. Cutting is just as efficient, and change-over time is reduced by two-thirds. (A-2)

Blending Compartment

The Shirley beater compartment is now made by Tweedales & Smalley Ltd., Castleton, England. The machine, which mixes and blends both cotton and synthetic fiber, has a special beater, baffle, and cover and can be attached to a scutcher. The beater compartment consists of a metal cylinder to which are attached six Kirschner lags equally spaced. Overall diameter is 16 ins. (A-3)

Automatic Doffer for Scutcher

An automatic doffer was developed for use with its scutcher by Tweedales & Smalley Ltd., Castleton, Rochdale, England. The doffer increases machine efficiency 15% by cutting out downtime formerly required to change laps manually. (A-4)

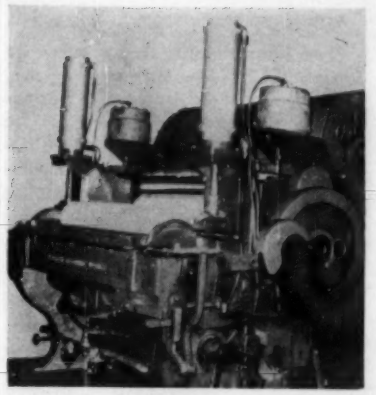
Condenser

A condenser without screens was announced by Fiber Controls Corp., Gastonia, N. C. There are no dead air spaces to collect fiber and cause chokes. Capacity is about 1,500 lbs. per hr. (A-5)

Centrifugal Clutch

A clutch designed by Automatic Steel Products, Inc., Canton, Ohio, is now applied to drives on Whitin wool cards and spinning frames. Gradual starting provided by the clutch cuts down broken ends and eliminates fiber strain at condensers and doffers. The clutch does not engage until the motor comes to full speed. (A-6)

For more information, circle the A-number on Reader-Service post card.



Lap-Control System

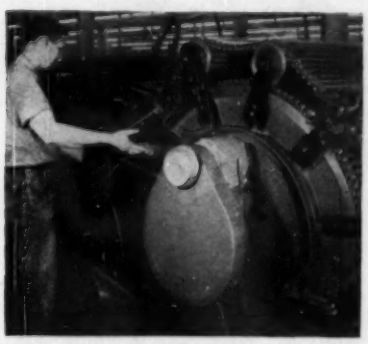
The Long pneumatic lap control for pickers was developed by Livingstone & Haven, Inc., Charleston, S. C. The system permits the production of laps weighing as much as 90 to 110 lbs. without materially increasing the width or diameter of the laps.

Advantages include increased production, reduced maintenance, equal pressure on the lap pins at all times, even let-off as the lap is made, and 25% reduction in doffing time.

The control is also available for use on sliver- and ribbon-lap machines. **(A-7)**

Card Coiler

An improved line of card coilers was announced by Southern States Equipment Corp., Hampton, Ga. Features include ball-bearing head and base assembly, strong tubular-steel stands, easy mounting on any kind of card, ball bearings on all shafts, and a roller-chain table drive. **(A-8)**



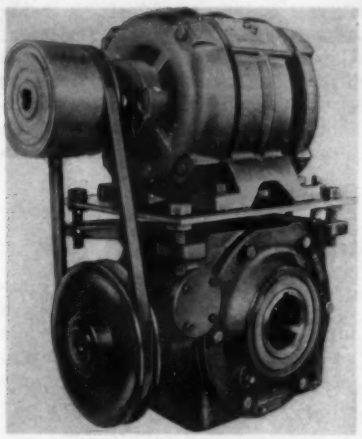
Dry-Fluid Card Drive

A dry-fluid card drive that starts cards smoothly, protects against overloading, and saves power was announced by Dodge Mfg. Corp., Mishawaka, Ind. The drive is built around Flexidyne, a fluid drive that uses heat-treated steel shot instead of oil to transmit energy. **(A-9)**

Sample Card

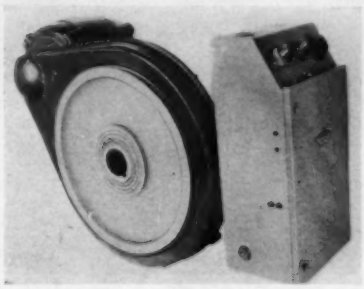
A sample card with tape condenser was announced by Anton Guillot K. G., Aachen, Germany. The card, equipped with either fillet or metallic clothing, permits wide settings for synthetics. A special drive for the rub aprons permits speeds of 250 to 500 rpm.

American sales representative is Stellite American Corp., New York, N. Y. **(A-10)**



Individual Card Drive

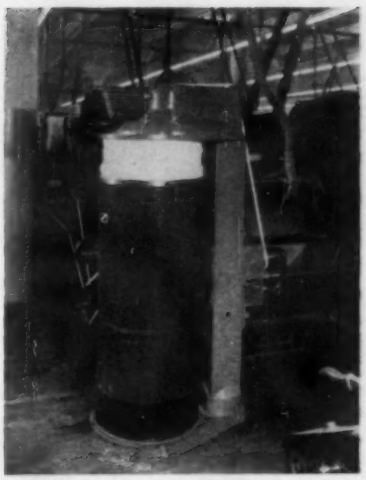
An individual card drive consisting of a 1½-hp. squirrel-cage induction motor equipped with a Mercury automatic clutch was announced by Allis-Chalmers Mfg. Co., Cincinnati, Ohio. The clutch allows the motor to reach full operating speed before the high-inertia card cylinder is accelerated. **(A-11)**



Electric-Clutch Card Drive

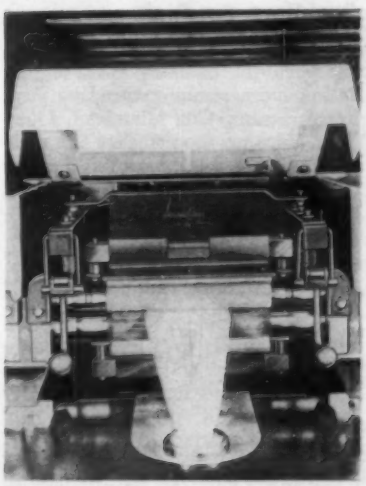
An individual card drive was developed by Precision Gear & Machine Co., Charlotte, N. C.

The drive, which has an electric clutch and a positive timing belt, gradually builds up to speed without jerking or overloading. **(A-12)**



Card Coiler

A card coiler that can put a 56-lb. lap in an 18x42-in. can was announced by Gossett Machine Works, Gastonia, N. C. Features include a ball-bearing suspended tube gear that eliminates oiling the track. **(A-13)**

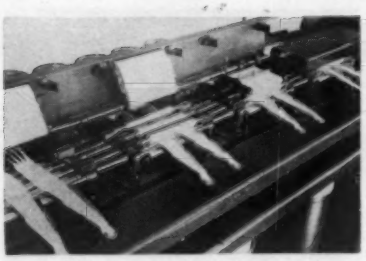


Drawing-Frame Clearer

PneumaClear, a suction-cleaning system manufactured by Pneumafil Corp., Charlotte, N. C., is now available on Whitin Even-Draft drawing frames and has been applied to the Warner & Swasey pin drafter. The primary purpose of this new system is to eliminate eyebrowing of roll clearers and to keep rolls cleaner.

Collecting ducts run the entire length of the frame and exhaust the collected air and waste into the collector unit that serves as a center samson of the machine frame. Pneuma-Clear cannot be applied to old drawing frames. **(A-14)**

For more information, circle the A-number on Reader-Service post card.



Twin-Sliver Drawing

A twin-sliver drawing frame was announced by Joh. Jacob Rieter & Co. Ltd., Winterthur, Switzerland, through its agent, American Rieter Co., Arlington, N. J. (A-15)

Dual-Head Pin Drafter

A high-speed, dual-head pin drafter, equipped for dual-can, quad-can, or ball delivery, was announced by Warner & Swasey Co., Cleveland, Ohio. This machine supplements the company's line of single-head pin drafters. (A-16)

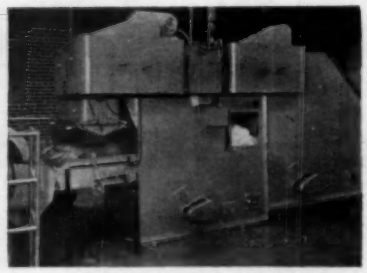
Pin-Drafter Stop Motion

A new lap-detector stop-motion unit, designed to prevent uneven delivery of stock and equipment damage, is available for the Warner & Swasey dual-can, quad-can, or ball-delivery pin drafters. This lap detector, built by Warner & Swasey Co., Cleveland, Ohio, can be installed on all machines not originally equipped with the device. (A-17)

Roving-Can Trucks

Trucks to hold up to eight roving cans of 15- to 18-in. dia. are made by Bennett Rose Co., Roebuck, S. C. Flanges hold each can firmly in position while they're being moved.

The trucks are narrow enough to go through mill alleys without damaging yarn on machines. Smaller trucks are made to handle two, four, or six roving cans. (A-18)



Feed for Nonwoven Fabrics

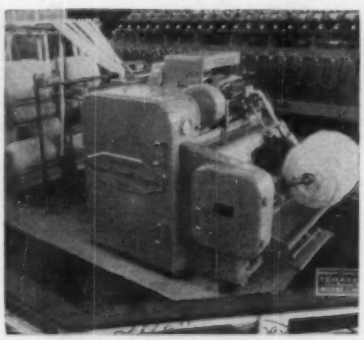
An automatic-weighing feed hopper for cards and garnetts used in producing nonwoven fabrics is being manufactured by W. D. Dodenhoff Co., Inc., Greenville, S. C. There is little variation in yard-to-yard weight of the web made on the lapper, which follows the card or garnett in the tandem process. Variation is held to ±1%. (A-19)

Tray-Weighting System

A tray-weighting system for spinning frames that has weighting arms instead of cap-bar nebs and slides was announced by Platt Bros. (Sales) Ltd., Oldham, England. Settings are quick and simple. (A-20)

Synthetic Feed Aprons

A synthetic belting for feed-box aprons, garnett-lapper aprons, picker-feed-table aprons, and other applications where moisture causes leather to rot was announced by Robert A. Main & Sons, Inc., Paramus, N. J. (A-21)

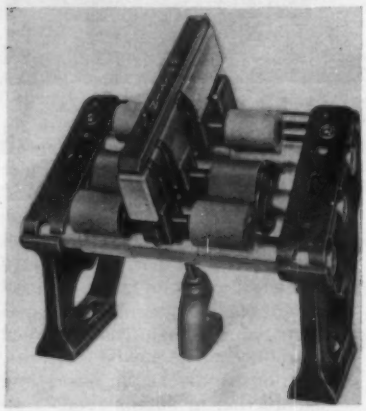


Intersecting Gill

The Tematex Super Intersector announced by Stellite American Corp., New York, N. Y., can be used for all combing and recombing operations and for the first three or four drawing passages in the French, Bradford, or American systems. (A-22)

Yarn Clearer

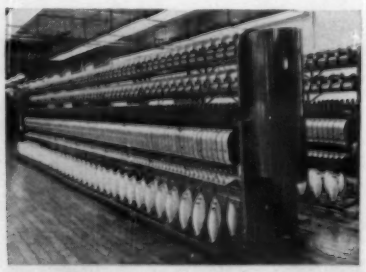
The Kenicoll yarn clearer, made by Cook & Co., Manchester, England, is being marketed by Stellite American Corp., New York, N. Y. The device was developed to provide slub-free yarn in worsted-spinning operations. The main feature is a trapping device that may be set to accommodate a wide range of yarn numbers. (A-23)



Roll Suspension and Weighting

Unitrol center-suspension weighting and new top rolls for spinning frames were announced by Whitin Machine Works, Whitinsville, Mass.

Precalibrated springs in the top arm distribute a total pressure of 60 lbs. over the three lines of rolls: 30 lbs. on the front line and 15 lbs. on the middle and back lines. Other weightings can be obtained by using different springs. (A-24)

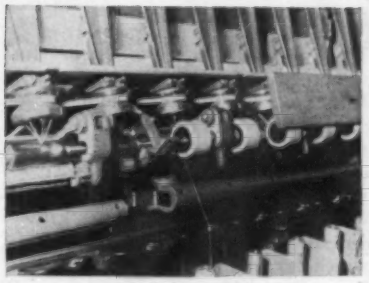


Continuous Stretch-Yarn Machine

The Superloft stretch-yarn machine built by Universal Winding Co., Providence, R. I., combines into one continuous process what was previously a seven-step operation. A 216-spindle machine will produce over 400 lbs. of 70-den. stretch yarn weekly.

The yarn retains a permanent crimp to give the stretch characteristic. The yarn produced is clean and uniform. (A-25)

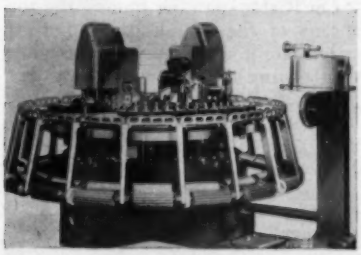
For more information, circle the A-number on Reader-Service post card.



Spring-Weighted Rolls

The self-weighted all-steel delivery rolls on Rieter woolen ring spinning frames were replaced with spring-weighted rolls. The rolls are made by American Rieter Co., Inc., Arlington, N. J.

The new rolls are covered with J-490 Accotex cots made by Armstrong Cork Co. The resulting improved grip on the stock running through the nip affords higher drafts on wool and permits running synthetics satisfactorily on the Rieter frames. (A-26)



Noble Comb

The TW Mark-V Noble comb, manufactured by Taylor, Wordsworth & Co. Ltd., Leeds, England, is built on a heavy base plate with a 4-hp. motor fitted directly to the plate.

The two dabbing motions are mounted on box-section stands that also enclose the driving belt. The dabber eccentric shafts are on roller bearings. The circles can be changed quickly by using two special arms that are fitted in sockets on the box-section casting. (A-27)

Antifriction Spindles

Roberts Co., Sanford, N. C., is now manufacturing its own antifriction spindles for filling quills, wooden warp bobbins, and paper tubes.

The spindles have smaller-than-conventional whorl diameters that permit a reduction in spindle speeds, reduce power requirements, and increase the life of cylinders, bearings, pulleys, and tapes. (A-28)

Antistatic Roll Cover

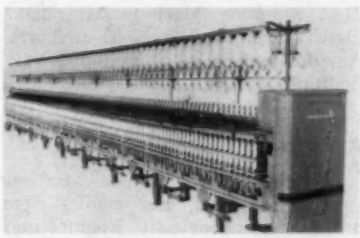
An antistatic roll cover, said to practically eliminate lapping caused by static electricty, was announced by Armstrong Cork Co., Lancaster, Pa. The cover contains compounds that permit the rapid flow of static electricity from the roll cover to the steel drive roll. (A-29)

Improved Creel

Bahnson Co., Winston-Salem, N. C., announced that its Open-Aire creel is now available in heavy stamped steel with a baked-enamel finish in choice of colors. Steel cross arms are notched to give stronger lateral support and to conceal runner clips. (A-30)

Dual-Apron Drafting

A dual-apron drafting system that eliminates surface lubrication and keeps friction to a minimum was developed by Russell Mfg. Co., Alexander City, Ala., and Cole Engineering Corp., Columbus, Ga. The new system has no cradles or front-line nebs, and rolls are aligned from the middle-line nebs. (A-31)

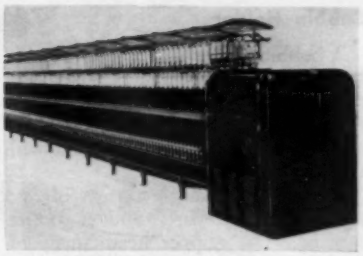


Narrow Spinning Frame

A spinning frame 25 ins. wide was announced by Roberts Co., Sanford, N. C. The frames have the Roberts double-apron drafting, ball-bearing spindles, built-in suction cleaning, umbrella creels, and 8-in. cylinders. (A-32)

Drafting System

A five-roll double-zone drafting system that can draft to 100 without the use of cradles or aprons was developed by Southeastern Textile Machinery Co., Inc.. Ranlo, N. C. The system is designed especially for synthetic fibers but can be used for cotton by a simple adjustment of the roll settings. (A-33)



Spinning Frame

The MR3 spinning frame, an improved version of the M1, was announced by Platt Bros. (Sales) Ltd., Oldham, England. The MR3 frame is an all-number, general-purpose machine that provides flexibility and ease of operation with a minimum of cleaning. Any one of several different drafting systems can be specified.

Drafts from 10 to 60 are available for 2s to 100s yarn, spun from cotton, synthetic staple, or blends. Small, medium, or large packages can be made on the frame. (A-34)

Spindle Drive

A new spindle drive, Supr-O-Band, was announced by Benjamin Booth Co., Philadelphia, Pa. Designed for twisting, roving, and spinning frames, the band can be sewed, cemented, or fastened by belt hooks. (A-35)

Suction Cleaner

A double-suction cleaner for wool spinning frames was announced by Thoma Co., Inc., Spartanburg, S. C. The cleaner has two suction points. One is under the delivery roll, and one is under the front draft roll.

Workloads are increased because there is better control and central collection of broken ends. Ends down caused by double ends, lap-ups, and whip ends are reduced. (A-36)

Feed-Box Apron

A synthetic-rubber belting for garnett-lapper aprons, picker-feed-table aprons, and other feed-box aprons were announced by Robert A. Main & Sons, Inc., Paramus, N. J. (A-37)

Revolving-Flat Card

A revolving-flat card was introduced by Joh. Jacob Rieter & Co. Ltd., Winterthur, Switzerland. (A-38)

For more information, circle the A-number on Reader-Service post card.

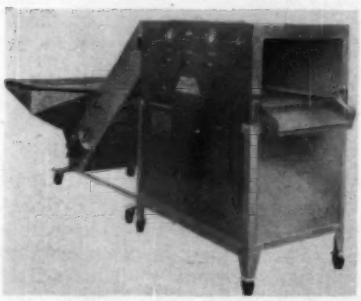
Bobbin Holder

A bobbin holder that maintains constant tension, eliminates stretched roving, and prevents roving from sloughing off without the use of drag arms was announced by Pneumafil Corp., Charlotte, N. C.

The bobbin holder consists of five aluminum-alloy parts and a Bolite bearing. The gripper head, made of flexible molded material, holds the bobbin firmly and acts as a vibration absorber. (A-39)

Skewer-Retipping Machine

A skewer-retipping machine that can bore, mill, and insert a new tip in a skewer in 20 secs. was announced by Etablissements Pol Paxion a Lusigny, Aube, France. (A-40)



Yarn Conditioner

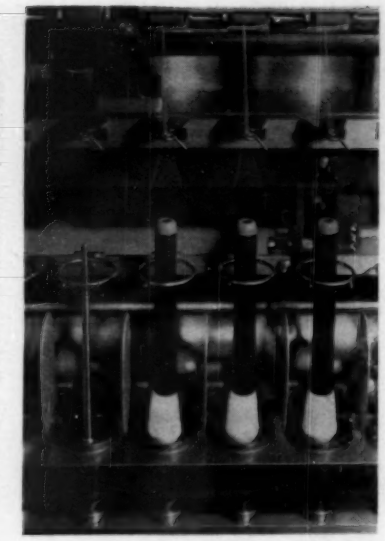
An improved Monalit yarn-conditioning machine was announced by Mona Industries, Inc., Paterson, N. J. Features include stainless-steel parts where the yarn touches, stepless spray regulation, pump-overpressure protection, simple removal of feeding unit, easy accessibility to service controls, and gentle handling of the yarn. (A-41)

Bobbin Hanger

A low-cost bobbin hanger with a positive latch was developed by Hartford Machine Screw Co., Hartford, Conn. The bobbin is slipped easily into place, and this action trips a latch that sends a pair of ears from within the hanger to support the bobbin. When the bobbin is empty, it is removed by giving it another slight lift that causes the ears to snap back inside the hanger. (A-42)

Card and Spindle Bands

Long-lasting nylon-and-elastic card and single-spindle bands were offered by Superior Bands, Anderson, S. C. (A-43)



Sliver-to-Yarn Spinning

The Japanese OM-K roving-to-yarn and OM-S sliver-to-yarn frames are now being built with 2½-in. rings and 10-in. lifts to meet American requirements for larger packages. In the larger gauge, the OM-S frame accommodates 6½-in. sliver cans with about 3 lbs. capacity. Other improvements include ball-bearing top rolls, an automatic clutch, and an automatic rail-lowering mechanism.

The machines are manufactured by O-M Spinning Machine Mfg. Co., Osaka, Japan, and are sold in North America by Edward S. Rudnick, New Bedford, Mass. (A-44)

Antifriction Top Rolls

Top rolls that eliminate wear on cap bars, saddles, and cradles were introduced by Progressive Engineering, Inc., Rockland, Mass.

The front roll runs on eight ball bearings, and nothing turns but the bosses. The middle roll has an easily replaced safety shear pin that breaks as soon as a lap-up occurs. The rolls are available for cotton, wool, and synthetics spinning and roving frames of all gauges. (A-45)

Stretch-Yarn Crimper

A new false-twist machine for producing crimped synthetics yarns was developed by Ernest Scragg & Sons Ltd., Macclesfield, England.

Output per spindle is about 4 oz. per 24 hrs. on standard yarn. The yarn is delivered with almost zero twist. The standard model has 140 spindles. Crowther Ltd., Montreal, Que., Canada, is the agent. (A-46)

Pneumatic Clearer

A pneumatic-clearer system for spinning, made by Nippon Spindle Mfg. Co., Japan, was announced in the United States by Edward S. Rudnick, New Bedford, Mass., exclusive U. S. and Canadian representative.

The system can be used on cotton, woolen, or worsted frames. Either central or individual collection boxes, which house a single-unit motor and fan, are available. (A-47)

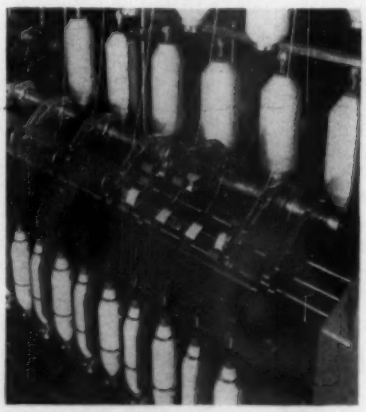
Stretch-Yarn Machine

A new machine for producing stretch yarn by a continuous process was announced by Valco Machine Co., Union City, N. J. The machine uses no belts or pulleys or motorized spindles to make a clean yarn with a minimum of machine maintenance. (A-48)

Top Drafting Aprons Attached To Guide-Saddle Arm

On Rieter spinning frames, the top aprons of the double-apron drafting system are now attached to the guide saddle arms and rise with them.

A simultaneous improvement in the guide-saddle arm is a new leverage that increases the pressure on the top rolls without an increase in the air pressure or spring pressure applied to the arm. The improvement was announced by American Rieter Co., Inc., Arlington, N. J. (A-49)



Cotton Spinning Frame

A cotton spinning frame with movable spindle rails was announced by Joh. Jacob Rieter & Co. Ltd., Winterthur, Switzerland, through its agent, American Rieter Co., Arlington, N. J. (A-50)

CONTINUED ON PAGE 160

For more information, circle the A-number on Reader-Service post card.

2 TWISTING, WINDING, WARPING, AND SLASHING

Last year was an active one for manufacturers of filling-winding machines. Most major manufacturers announced new machines or major improvements to existing models.

The results are better-wound bobbins at reduced labor costs. Automatic pinboard droppers are improved for less damage to delicate filling. Automatic box stackers were also improved to stack bobbins in boxes ready for looms.

Mills will profit from these machine advances by higher-quality cloth. The labor saving will also extend to weaving, where less bobbin handling is necessary.

The first mill-purchased units of loom winders were installed in 1956. The loom winders are a new system of filling winding that winds filling yarn on bobbins right at the loom.

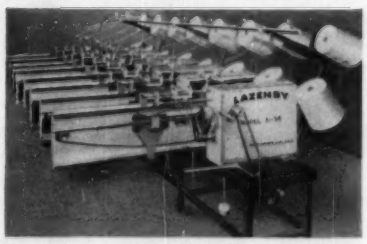
The first mill installation is on Draper XD looms on filament-rayon, spun-rayon, and cotton yarn [TEXTILE WORLD, April, '56, p. 84]. The second mill installation is on Draper X-2 looms on cotton yarn [TEXTILE WORLD, Dec., '56, p. 112].

There was less activity in slashing equipment than in 1955, when slashing activity was very heavy. However, practically all slashers have been redesigned or completely new ones designed the past few years. Perhaps no phase of textile manufacturing has shown greater change than slashers in recent years.

Formerly, slasher speeds were 30 to 40 yds. per min.; now, 80 to 90 yds. per min. is common. And automatic moisture, size-level, size-viscosity, and other controls give warps of uniform size content.

In twisting, the most unusual development was a twister frame with an individual stop motion that stops only one spindle.

Manufacturers of warpers turned out some new machines with higher speeds. Better creels require less floor space, and combination tension units give a greater range of tension variation.



Automatic Cop Winder

Built by F. A. Lazenby Co., Baltimore, Md., the A-54 automatic cop winder winds 98 lbs. per spindle of 14-lb. jute per 8-hr. shift. The cops are 1⅞ ins. in diameter, and the spindle speed is 2,200 rpm.

The winder is used in cotton mills, carpet and rug mills, and mills weaving tapestry and upholstery fabrics. Winding wire-core asbestos yarn at a spindle speed of 1,230 rpm., the production is 200 lbs. per 8 hrs. **(A-51)**

High-Speed Cone Winder

The Model-IKN winder for knitting-yarn cones, built by W. Schlafhorst & Co., Maschinenfabrik, M. Gladbach, Germany, winds at 1,100 yds. per min. Cones produced are 6 ins. wide with a gradually increasing taper, which is specially suitable for running off on knitting machines. **(A-52)**

Embroidery-Yarn Winder

An automatic machine for winding embroidery yarn into pull skeins was made available from Trubenise (Gt. Britain) Ltd., London, England. **(A-53)**

Filling-Winder Attachment

A device to eliminate starting tails was incorporated in the Foster-Muschamp Model 66 automatic filling winder made by Foster Machine Co., Westfield, Mass. **(A-54)**

Yarn-Bulking Device

American Enka Corp., New York, N. Y., developed a bulking device for yarn that can be easily attached to any machine with a constant-speed yarn take-up, such as winders, uptwisters, and redraw machines. Licenses are available on a 1% royalty rate based on the yarn price. **(A-55)**

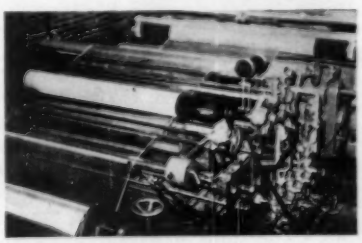
Slasher Dryer

A slasher dryer that may be gas- or steam-heated is produced by J. O. Ross Engineering Co., New York, N. Y. The unit is rated at 800 to 1,600 lbs of yarn per hour. **(A-56)**

Warping Creel

The Minimag creel, made by Crowther Ltd., Thurmaston, Leicester, England, requires less floor space than conventional creels. The uprights carrying the cones are arranged in pairs. The uprights are side by side, and they can be moved backwards and forwards.

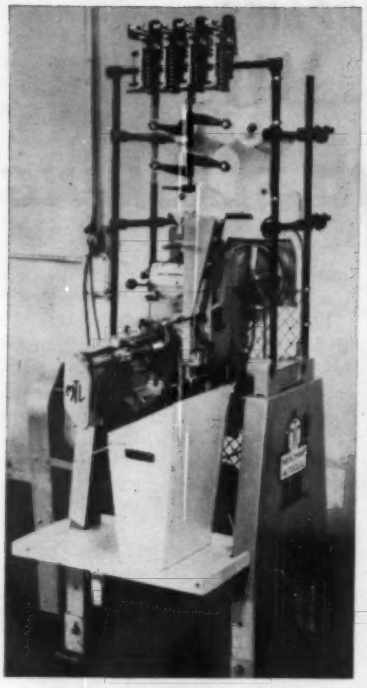
The end from the full cones on the rear upright is tied to the tail of the operating cone on the forward upright. When the ends on the forward cones run out, the yarn continues to be taken from the full cones. **(A-57)**



Slasher Without a Dryer

A slasher without drying cylinders or a hot-air drying oven was developed by Hettwer & Co. (Texma K. G.), Micheldorf, Austria. The slasher is designed to size synthetic fibers. The machine uses a wax-like size with a melting point of 170° F. The size mixture, contains no water. **(A-58)**

For more information, circle the A-number on Reader-Service post card.



Automatic Winders

A range of automatic small-package winding machines was introduced by Muschamp Textile Machinery Ltd., Bardsley, England, represented in the U. S. by Foster Machine Co., Westfield, Mass. The winders automatically doff the wound package after a predetermined length has been accurately wound, whether the thread is a few thousand yards or only 10 or 20 yds. long. (A-59)

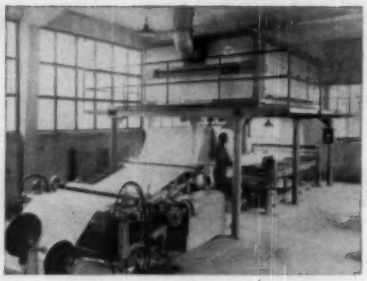
Homogenizing Equipment

A 1-hp. homogenizer by Buschman Products, Inc., New York, N. Y., that operates at 3,600 rpm. is said to process 1,000 lbs. per hr. of semi-pastes or other viscous materials with viscosities up to 30,000 cp.

Every particle of wet and dry formulation is dispersed. Cooking operations for some gums and starches may be completely omitted by a single pass of the wet and dry mix through the homogenizer. (A-60)

Improved Slasher Control

An improved size-level control for slashers was announced by Powers Regulator Co., Greensboro, N. C. The improvements are (1) a Teflon-coated bulb fitting immerged in the size and (2) a modulating valve that feeds the size as it is used, instead of an on-off valve. Level is automatically controlled. (A-61)



Overhead-Drying Slasher

A slasher with an elevated single-track dryer was produced by Ruti Machinery Works Ltd., Ruti, Switzerland. Features claimed for the slasher are: (1) close control of the warp tension in both the wet and dry section, (2) one, two, or three pairs of squeeze rolls, (3) easy operation and regulation, and (4) little maintenance. (A-62)

Winding Stands

A line of winding stands, manufactured by Hobbs Mfg. Co., Worcester, Mass., is available for winding yarn at warpers and slashers and for winding fabric at inspecting and finishing.

The stands come with single or double shafts and have capacity to 1,000 lbs. in various widths. Beams from 20 to 72 ins. in diameter can be wound. (A-63)

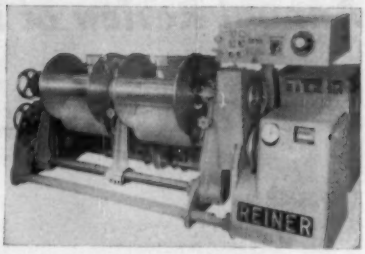
Stretch-Yarn Attachment

Glacelon equipment for producing stretch yarns can be applied to any make or model uptwister. The spindle speed is above 30,000 rpm. on nylon and Dacron yarns. The device, developed by K. W. Glace, is obtainable from Gibbs Machine Co., Inc., Greensboro, N. C. (A-64)

Warper

The Series-D warper, built by Crowther Ltd., Thurmaston, Leicester, England, accommodates beam widths from 54 to 84 ins. The maximum flange diameter is 36 ins. All types of barrels can be fitted, provided a ratio of 4-to-1 flange-to-barrel diameter is not exceeded.

The weight of the beam when full can reach two tons. An infinitely variable warping speed can be run from 140 to 850 yds. per min. This speed remains constant at any preselected linear speed to ±1%. (A-65)



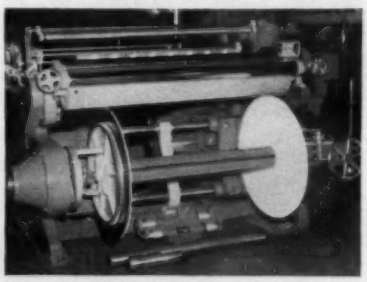
Sectional Warper

A heavy-duty sectional warper built by Robert Reiner, Inc., Weehawken, N. J., can run either 42-in. tricot beams with a flange diameter of 21 ins. or two 21 x 21-in. beams simultaneously. The machine uses no measuring roll, which eliminates yarn strain and imperfections.

Warper beams can be made with a maximum flange diameter of 32 ins., and running speeds are up to 450 yds. per min. The machine can be run slowly for short periods for inspection. (A-66)

Trap for Slasher

A permanent-magnetic ferrotrap developed by Eriez Mfg. Co., Erie, Pa., protects homogenizers and rubber-covered slasher rolls from damage caused by rust particles in the starch. It also prevents rust spots in finished cloth. (A-67)



Slasher Front

A new slasher front, made by West Point Foundry & Machine Co., West Point, Ga., is adjustable for beam lengths of 20 to 60 ins. It will also take beams with heads up to 36-in. dia. (A-68)

Improved Tying Machines

Improvements were announced by Edda International Corp., New York, N. Y., on GK6-A, B, and C Titan tying-in machines. The improvements are: modified thread guides for positive thread selection, stripper-wheel disk to eliminate thread build-up, and spring-loaded stripper shields to prevent rolled ends. (A-69)

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For more information, circle the A-number on Reader-Service post card.

3 WEAVING

Few major weaving developments were announced in 1956. There were some changes and modifications to existing models of looms. Many of the changes were designed to make the looms more versatile and adaptable to a wider range of weaves.

Most of the new looms brought out during the year were for the weaving of carpets and carpet backing. The rug and carpet branch of the textile industry is in a process of development and expansion.

A new archless loom for silk and synthetics, a loom for weaving fabric belting, and a fine-fabrics loom with push-button controls were announced.

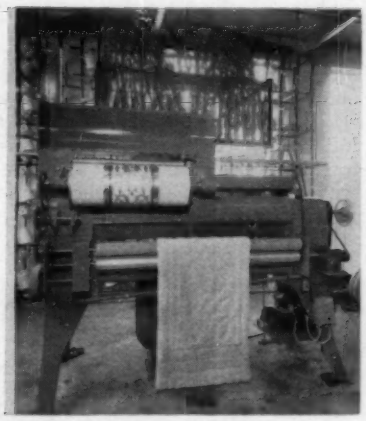
There is a continuing trend toward loom parts and accessories made of lighter, more-durable materials. Aluminum, plastics, alloys, and combinations of various materials are appearing in more and more loom parts.

Research and experimentation are still being made in methods of filling placement and replenishment. One development of 1956 is a double-pick method of feeding filling yarn from cones.

Few really new loom accessories were announced during the year. As in the looms themselves, most accessories introduced were modifications or improvements of existing types.

As for the future, there are some changes of weaving processes and procedures in the development stage. The major loom manufacturers have a number of new projects planned, and other parts and accessories are being tried.

Some radical weaving changes may be in the offing. All the work and experimentation being done on various types of circular and shuttleless looms may bear fruit. A development that will effectively eliminate the expensive and noisy picking motion of the loom, if ever made practical, should be the greatest loom improvement in a century.



Pattern Tufting Machine

A tufting machine for patterned tufted fabrics in high- and low-nap loop pile was introduced by Cobble Brothers Machinery Co., Inc., Chattanooga, Tenn. This machine gives more-complete control over the yarn and makes it possible to produce more-intricate patterns.

To change from one pattern to another, only the pattern shell is changed, which requires only 1 or 2 mins. No rethreading is necessary. The machine can produce any pattern that can be drawn, and the speed of the machine is the same as that of plain loop pile tufting machines. **(A-71)**

Nonwoven-Fabric Machine

An improvement on its web-forming machine was announced by Curlator Corp., East Rochester, N. Y. A Plexiglas panel prevents the formation of hang-ups and tails by forming an effective seal to keep the air flow in balance. **(A-72)**

Push-Button Loom

A push-button loom that stops in predetermined positions was developed by Henry Livesey Ltd., Blackburn, Lancashire, England.

The loom is a two-shuttle drop-box filling-mixing loom with a circular battery and is designed to weave a wide range of fine fabrics, including filament rayon.

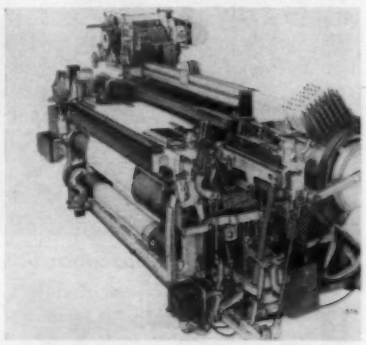
Push-button control is said to eliminate starting marks caused by loom stops. It also controls a group of looms from a central station. **(A-73)**

Tufting Machines

Fine-gauge tufting machines were announced by Cobble Brothers Machinery Co., Inc., Chattanooga, Tenn. The gauge runs as low as 0.105 ins. Another gauge, $\frac{1}{8}$ in., has also been developed to make carpets of both plain and tweed yarns. Both machines are made in widths up to 216 ins. **(A-74)**

Carpet Tufting Machine

A table-model carpet yardage tufting machine was announced by Broad Street Machine Co., Chattanooga, Tenn. The machine makes throw rugs or yardage in both cut or loop pile. It operates at 1,200 rpm. and is driven by a $1\frac{1}{2}$-hp. motor. **(A-75)**



Archless Loom

A rayon and silk loom with a low-mounted dobby was announced by George Hattersley & Sons Ltd., Keighley, Yorkshire, England. The highest part of the loom is 58 ins. The loom runs four shuttles for up to four colors of filling, and shuttles are changed automatically. **(A-76)**

Improved X-2 Loom

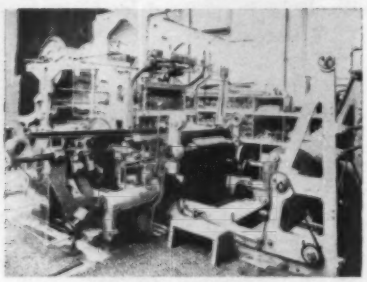
Draper Corp., Hopedale, Mass., adapted its X-2 loom to weave a wider range of fabrics, including fine-cotton and filament- and spun-rayon fabrics.

Improvements that make it possible to weave these fabrics are (1) a new design of high-roll ratchet take-up with double rubber-covered take-up rolls and other silk-type take-up-roll features, (2) dobby or clock-spring-top harness motion, (3) center-fork filling stop motion, and (4) linkage-type parallel assembly with aluminum pick arm and lug-strap connection. **(A-70)**

For more information, circle the A-number on Reader-Service post card.

Loom for Tufting Backing

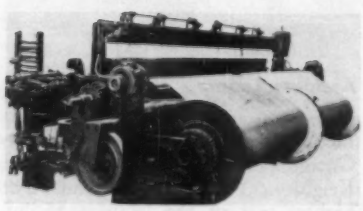
A fully automatic broad loom said to be particularly suitable for weaving jute backing for tufted carpeting is being manufactured by Soc. Coll, Adriano Gardella & Filo, Genoa, Italy. The loom is supplied in several widths —from 136 to 254 ins.; reed space for each width is only 2 ins. shorter than loom width. (A-77)



Convertible Carpet Loom

A narrow wilton carpet loom that can be converted from wire weaving to face-to-face weaving in only 1½ days was announced by Wilson & Longbottom Ltd., Barnsley, England.

As a 27-in. wire loom on a plain weave, the loom operates at 145 ppm.; as a jacquard loom, it operates at 125 ppm. As a face-to-face loom, it operates at 90 to 95 ppm., which is effective to 180 to 190 ppm. (A-78)

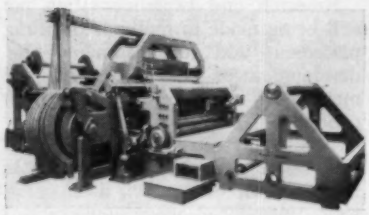


Automatic Jute Loom

An automatic jute loom for producing backing cloth for tufted carpets was introduced by British Northrop Loom Co. Ltd., Blackburn, England. The loom is built in two standard widths of 174 and 210 ins. American agents for the loom are Draper Corp., Hopedale, Mass., and A. C. Wickman Ltd., Toronto, Canada. (A-79)

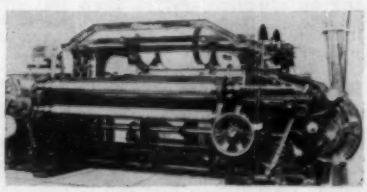
Loom for Weaving Jute

A loom for weaving 168-in.-wide jute backing for tufted carpets at 72 ppm. is available from American Safety Razor Corp., Staunton, Va. The loom is built by Van De Wiele, Marke, Belgium. A 210-in. loom operates at 60 ppm. The looms are installed and serviced in the U. S. and Canada by American Safety Razor Corp. (A-80)



Belting Looms

Two widths of looms to weave fabric belting were produced by Wilson & Longbottom Ltd., Barnsley, England. One loom has a 42-in. reed space, and the other has a 50-in. reed space. (A-81)



Wide-Carpet Looms

Double-shuttle pile-fabric carpet looms was built by Felix Tonnar, Duelken, Rhineland, Germany. They are sold in the U. S. by Texma Import Co., Philadelphia, Pa. (A-82)

Batt-Making Equipment

The Series 700 garnett and Series 680 feeder were offered as improved batt-making equipment by Proctor & Schwartz, Philadelphia, Pa. The garnett will produce up to 500 lbs. per hr. of average batting. (A-83)

Double-Face Carpet Looms

A double-face carpet loom was introduced by Lansdowne Steel & Iron Co., Morton, Pa. The loom is being produced to weave carpets of a lighter grade than those normally woven on wilton wire looms. The looms are avialable in 9-, 12-, and 15-ft. widths. (A-84)

Picking Parts for Looms

An aluminum pick arm and lug-strap connection for X-2 and XD looms are available from Draper Corp., Hopedale, Mass. (A-85)

Cam Follower for Looms

A cam-follower assembly featuring a molded roll of nylon composition impregnated with graphite was developed by George E. Clentimack Co., Inc., North Attleboro, Mass. Antifriction bearings and felt seals are used on the rolls to simplify lubrication. (A-86)

Clutch-Brake Loom Motor

A clutch-brake loom motor in a self-contained unit was developed by General Electric Co., Schenectady, N. Y. With the simplified braking system, loom performance is improved because of fast stopping.

Other advantages are more-constant picking speed, reduced speed fluctuations, lower power cost, and lower loom- and motor-maintenance cost. (A-87)

Filling Device for Looms

A device to furnish filling yarn to a loom from a cone of yarn was announced by John Pilling & Sons Ltd., Colne, Lancashire, England. The attachment is designed to convert nonautomatic looms to looms with a continuous filling supply. (A-88)

Pick Counters For Looms

Pick counters with a printing device are manufactured by Injecta, Ltd., Teufenthal/Aaran, Switzerland. The results of each shift's operation are registered on a card by pressing a lever. (A-89)

CONTINUED ON PAGE 162

For more information, circle the A-number on Reader-Service post card.

4 KNITTING

Reports were circulated in 1956 that 90-gauge full-fashioned-hosiery machines had been made but production costs and seconds were too high. Machine builders concentrated their efforts on more mechanical features to reduce labor costs by having knitters look after more machines.

Full-fashioned-outerwear machines are becoming more versatile. Machines are now made where the rib cuffs are semiautomatically run on the needle bars. This year will probably see the first spring-needle machine to knit rib trims and full-fashioned jersey bodies. Old ideas such as intarsia and lace are to be reintroduced on new machines.

Fine-gauge circular-hosiery machines are still mostly 400-needle models. Finer-gauge machines are steadily increasing, although there is enough business on the 400-needle machines; but some reports indicate that the extra needles pose a problem at the ankle.

Defects Get Attention

The year 1956 saw many new devices to draw the fabric from the machine to eliminate tucks and crow feet. These devices are chiefly based on the air-suction principle. One of the outstanding developments was a machine that knits two partial courses with each oscillation of the cylinder in heel-and-toe knitting.

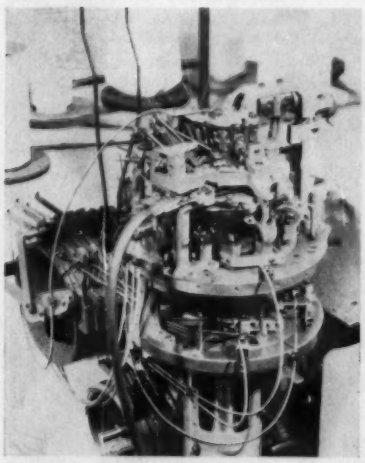
More attention is being given to finishing operations in hosiery manufacture. The completely automatic mill with an assembly line from boarding to final packaging is not far distant.

Rib and interlock underwear and outerwear machines are now provided with more feeds. Garment-length interlock machines now have up to 30 feeds, while rib machines that make pattern fabric have 24 feeds.

Fleecy machines also have an increased number of feeds. Fabrics that only could be made on spring-needle machines can now be made on latch-needle machines with 24 feeds. More-scientific methods using special instruments are taking the place of old rule-of-thumb methods [Textile World, Oct., '56, p. 100].

Tricot-machine speeds are still climbing higher. A 168-in. American-built machine knits continuously at 800 courses per minute, while an English 84-in. machine runs at 1,250 courses per minute.

Interest was stirred by an announcement that raschel machines have been adapted to knit carpets. These machines knit the pile and the backing, which does not have to be latex coated.



Seamless-Hosiery Machine

The Model MF-400 hosiery machine, built by H. E. Crawford Co., Inc., Kernersville, N. C., knits women's seamless hosiery with two feeds from the make-up to the press-off.

Two courses are knitted with each revolution of the needle cylinder during rotary knitting. Two partial courses are knitted with each reciprocation of the cylinder during heel and toe knitting. Only one length of needle butt is required. The machine is built with 400 or 474 needles. **(A-90)**

Hosiery Tension Device

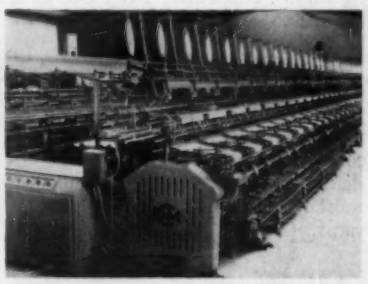
An automatic tension device developed by Fidelity Machine Co., Inc., Philadelphia, Pa., for its Model 400 machine can be adapted to all types of seamless-hosiery machines.

As each individual stocking completes the knitting cycle, it is automatically withdrawn from the knitting head through the air take-up tube and deposited in a transparent receptacle for easy removal.

The tension device remains in operation constantly regardless of the knitting speed. No resetting is required if the machine is racked by hand. Lifting the dial cap for inspection does not affect air take-up tension. **(A-91)**

Seamless-Hose Machine

Carolina Model K2FS, built by Carolina Knitting Machine Corp., Charlotte, N. C., is a two-feed, high-cylinder, spiral-type machine for knitting mesh hosiery. The machine knits plain or mesh fabrics with conventional or stretch yarns. The machine has demi-toe and Y-heel attachments and electric stop motions. **(A-92)**



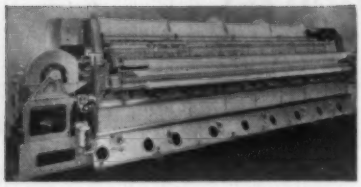
Full-Fashioned-Hosiery Machine

Full-fashioned knitting machines, announced by Daniels Cotton-Maschinenfabrik GmbH, Wiesbaden, Germany, are built with 6 to 40 knitting sections. Gauges up to 75 are made with knitting widths of 14½ to 15 ins. The machine speed is up to 100 courses per minute. **(A-93)**

Circular Knitting Machine

An electronically controlled circular knitting machine made by Jumberca, Santa Maria, Barcelona, Spain, has 24 feeds—each with four-color striping attachments. Striping changes are made by perforated tape. **(A-94)**

For more information, circle the A-number on Reader-Service post card.



High-Speed Tricot Machine

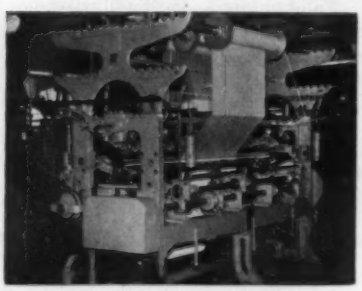
A two-bar tricot machine that operates at 800 courses per minute was announced by Textile Machine Works, Reading, Pa. Known as the Reading Tricot Machine, it is available in 28 gauge and finer, with a knitting width of 168 ins.

Conventional samsons are designed to carry warp beams with 4½-in.-dia. barrels but may be changed to accommodate larger supply packages. Cloth-roll diameter is up to 14 ins. One of the outstanding features of the machine is the patented let-off motion. The pattern control is for an 18-in. pattern wheel. **(A-95)**

High-Speed Tricot Machine

Designed for continuous commercial speeds of 1,250 courses per minute, the F.N.F. Super machine, made by F.N.F. Machinery Mfg. Co. Ltd., Burton-on-Trent, England, was marketed in an 84-in. width.

The machine can be run with chains or pattern wheels to make a wide variety of plain and fancy fabrics. The machine is equipped to accommodate large-capacity 21-in.-flange-diameter beams. The machine knits most man-made fibers and fine cotton yarns. **(A-96)**



Pile-Fabric Machine

A raschel knitting machine especially adapted to produce a variety of pile fabrics was introduced by Karl Lieberknecht, Inc., Reading, Pa. The machine can also be used as a regular raschel machine to produce nets, laces, and other fabrics. **(A-97)**

Pattern-Wheel Setting Gauge

Supreme Knitting Machine Co., Inc., Ozone Park, N. Y., developed a pattern-wheel setting gauge. The gauge is a piece of steel arranged to fit over the edge of the pattern-wheel hub to give exact operating clearance to the pattern wheel. **(A-98)**

Latch-Needle Fleece Machine

Model TIF knitting machine, built by Supreme Knitting Machine Co., Inc., Ozone Park, N. Y., is a multiple-feed, sinker-top, latch-needle machine designed to produce fleece fabrics for coating, sweat shirts, underwear, linings, and sportswear. The machine knits up to 35 yds. of fleecy fabric per hour. **(A-99)**

Hosiery-Inspecting Machine

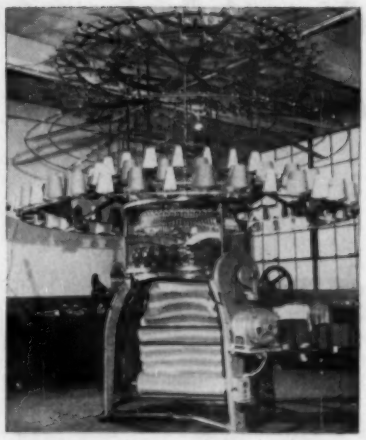
The Marvel-X machine, made by Marvel Specialty Co., Inc., Paducah, Ky., is an automatic machine for inspecting and turning all types of infants', children's, and men's hosiery. One operator can get as much production as two inspectors can with the conventional flat-board method. **(A-100)**

Hosiery Wrap Attachment

An attachment fitted to Banner wrap and wrap-reverse machines made by Edley Machine Co., High Point, N. C., makes designs possible with only one wrap color beside another wrap color with no plain needle wales between. Up to four colors can be used side by side with no intervening plain needle wales between them **(A-101)**

High-Speed Argyle Knitter

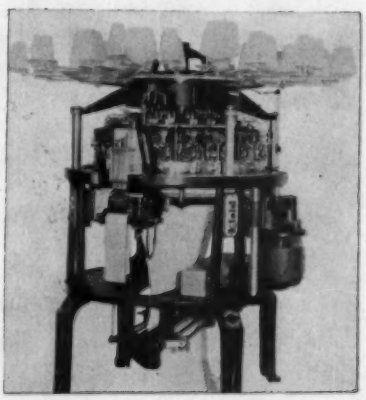
The SCOP-X, built by Hemphill Co., Pawtucket, R. I., knits overplaid argyles 33% faster than the original SCOP. A larger driving pulley has been added to increase the speed of the machine. **(A-102)**



Multifeed Pattern Rib Machine

The standard 30-in.-dia. Model SAR-PP machine built by Supreme Knitting Machine Co., Ozone Park, N. Y., has 24 feeds. The machine uses four-color striping boxes, three-position pattern wheels, and automatic tuck controls on each feed to produce automatic variable stripes or solid-colored rib fabrics with patterned inserts. The inserts can be placed as close or as far apart as desired.

Each cylinder feed has a three-position pattern wheel for knit, tuck, and welt positions and automatic control of the cylinder cams for knit, welt, or tuck positions. **(A-103)**



Interlock Sweater Machine

Model TAI-24 is a 32-in.-dia., 24-feed, fully automatic multipurpose knitting machine built by Jacquard Knitting Machine Co., Inc., Philadelphia, Pa. The machine produces interlock, plain, or rib bodies with 2x2, 2x1, or 1x1 rib cuffs.

The machine can be equipped with two- or four-color yarn changers to permit a separate nylon draw thread, independent of the body yarn, for quick, easy separations. **(A-104)**

CONTINUED ON PAGE 164

For more information, circle the A-number on Reader-Service post card.

Annual Review of EQUIPMENT and SUPPLIES

5 BLEACHING, DYEING, FINISHING

At the operating level of textile processing, there has been steady progress toward reducing the element of human judgment in maintaining optimum processing conditions or results.

Completely instrumented control of an entire bleaching and mercerizing range involving up to six miles of cloth at one time is an example. Automatic assay and correction for variations in the color values in a dye solution is another example. In processing, the trend toward reducing the time element is constant, even urgent, as rising labor and materials costs cut into the traditionally thin textile-profit margins.

Pressure Helps Bleaching

One example of this is peroxide bleaching under pressure, a method that does the job in 2 to 3 mins. Now at the laboratory stage of development, the process shows promise and would reduce the space and equipment now required.

Speedier bleaching of packaged yarn has been developed by two different methods. In one system the yarn is impregnated with a peroxide solution by the usual circulation methods. Live steam is then forced through the yarn to complete the process.

In another method, peroxide bleaching of packaged yarn under pressure in suitable machines has produced good results in 30 mins. bleaching time. Both methods are the result of research at Buffalo Electrochemical Co.

An improved method of applying acid dyes to nylon was introduced last year by Chemstrand Corp. A dyebath additive appears to be the key to the method. Improved dyeing methods for Acrilan-wool blends were also developed by Chemstrand.

Research Improves Finishing

A totally new resin of the epoxy type was developed for cotton finishing by Shell Development Co. The resin is nonchlorine retentive and contains no formaldehyde.

The first major change in 25 years in the basic principle of achieving dimensional stability in fabrics was brought to the plant-scale stage by Fabric Development Laboratories, Inc. A differential in the surface speeds of the special rolls between which the fabric is passed causes compaction of the warp threads and removes shrinkage.

Interest in the application of radioisotopes to textile processing began to gather momentum in this country. Early work with these materials in England has sparked interest in broader applications, which appear almost limitless.

What's To Come?

Textile processing, in the broad sense, is ready to benefit from the basic new discoveries in physics, chemistry, and electronics that have occurred in the past twenty years. The peacetime possibilities of the myriad side reactions that have grown out of atomic-bomb research will have a further effect on textile processing.

Modified versions of the complex electronic-brain machines now largely employed only in the accounting and payroll offices of textile mills are capable of producing punch cards that will control bleaching, dyeing, and finishing ranges. This sort of equipment is already at work in other industries, notably automobile manufacture.

Sound waves that are inaudible to the human ear promise a revolution in dyeing the hydrophobic fibers. Imposed upon a dyebath, the high-speed vibrations cause cold boiling and drive dye particles into fibers at unprecedented rates. Here again, other industries have quickly pounced on a new tool that the textile processors have largely overlooked.

But in the forseeable future, textile processing will benefit by these developments, which at this point seem expensive, inapplicable, or even downright fantastic.

Selvage Printer

An attachment for tenters or examining machines that permits printing on the selvage of any flat fabric was developed by G. Durrant and Sons Ltd., Stockport, England.

The machine is cloth-powered and will print at ½-, 1-, or 2-yd. intervals. Metal printing dies are used to create the impression. (A-105)

Colorimeter

The Model IV Colormaster Differential Colormeter was announced by Manufacturers Engineering & Equipment Corp., Hatboro, Pa. (A-106)

Revolving Joint

An improved revolving joint applicable to textile rolls that must be heated or cooled was developed by Rotherm Engineering Co., Chicago, Ill. (A-107)

Pot Eyes

An improved line of stainless-steel free-wheeling pot eyes was developed by Mount Hope Machinery Co., Taunton, Mass. Designed to make possible long pulls on all types of fabric, the pot eyes are 14 ins. in diameter, with a 6-in. hub and a 6-in. span between flanges. (A-108)

Selvage Uncurler

Auxiliary uncurlers to be used with or without air-operated guiders were announced by Guider, Roll & Service Co., Daytona Beach, Fla. (A-109)

Textile-Processing Rolls

An improved line of pressed rolls for textile processing was announced by H. W. Butterworth & Sons Co., Bethayres, Pa. (A-110)

Printing-Screen Carriages

A carriage that permits one operator to move the printing screen from station to station without help was produced by Friedrich Grohmann, Munich, Germany. The units are supplied in standard sizes and require only the addition of a guide rail to be used on regular printing tables. (A-111)

Washer-Extractor Unit

A combined washer and extractor for sweaters, scatter rugs, and other small textile articles was marketed by G. A. Braun, Inc., Syracuse, N. Y. A 45-min. cycle washes, extracts, and shakes out the load of fabric without between-step handling. Models are available to handle 35 to 40 lbs., 50 to 55 lbs., 100 lbs., and 200 lbs. per load. (A-112)

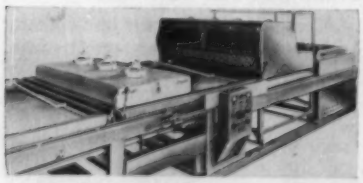
For more information, circle the A-number on Reader-Service post card.

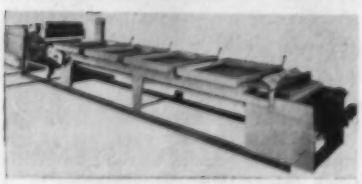
Carpet Pad

The Niptrol pad made by Rodney Hunt Machine Co., Orange, Mass., was built in a model that will accommodate carpeting up to 15 ft. wide. The pad is adaptable to the application of direct or vat dyes and runs approximately 4 yds. per min. with a lineal pressure of 250 psi. **(A-113)**

Continuous Cloth Washer

The Cascade Model C cloth washer redesigned by James Hunter Machine Co., North Adams, Mass., can handle up to 60 yds. per min. of woolen fabrics. Featured are one-man operation, low steam and soap consumption, and economical use of water—only 5 to 10 gals. per lb. of cloth. **(A-114)**





Flock-Printing Machine

A machine that will screen-print in two to eight colors or in several colors and flock was introduced by Arno H. Wirth, Reutlingen, Germany. **(A-115)**

Edge-Guide Control

Askania Regulator Co., Chicago, Ill., perfected an air-operated edge-guide control for light duty. The unit was designed for cutters and laminators handling moderate-size rolls. **(A-116)**

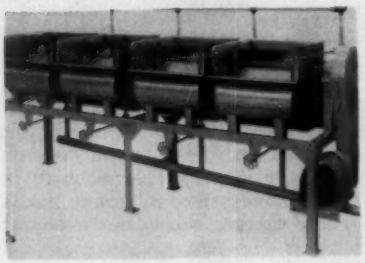
Screen and Flock Printer

A compact screen- and flock-printing machine was marketed by Reisinger Apparatebau, Vienna, Austria. The machine can produce from one to six colors and requires only one operator.

Washing, gumming, and drying units are included in the machine, which is obtainable in working widths of 1 yd. and 1½ yds. Production of one color is from 220 to 275 yds. per hr. **(A-117)**

Carpet-Dyeing Machine

A stainless-steel carpet-dyeing machine 20 ft. long, 12 ft. deep, and 12 ft. high that can handle carpets up to 18 ft. wide was announced by Samuel Pegg & Sons Ltd., Leicester, England. **(A-118)**



Sample-Dyeing Machine

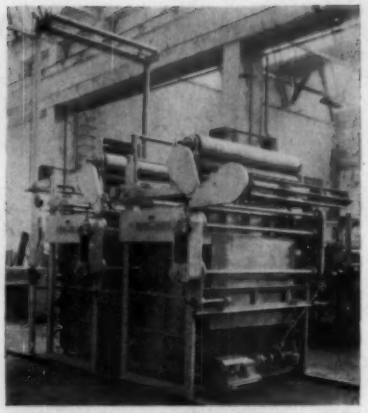
Paddle dyeing machines can be obtained in batteries of two or more units from Freeman, Taylor Machines Ltd., Necton St. Works, Syston, England. **(A-119)**

Plastic Brine Tanks

Brine-storage tanks and dissolvers were developed by International Salt Co., Inc., Scranton, Pa. The tanks are made of polyester-reinforced glass fiber and are corrosionproof. **(A-120)**

Napper

A napping machine with enclosed V-belt drive and 24 worker rolls was marketed by Kettling & Braun, Minden, Westphalia, Germany. Stellite American Co., New York, N. Y., is the American representative. **(A-121)**

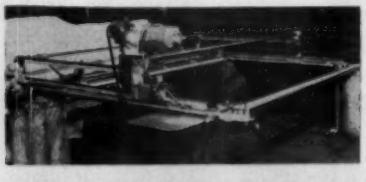


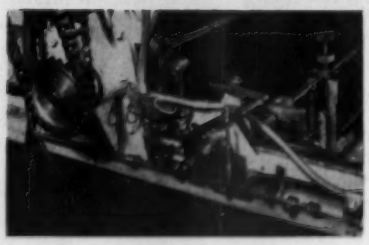
Cloth-Washing Machine

A scouring or afterwashing machine that subjects the fabric to a rapid beating action was developed by Share Co., Milan, Italy. **(A-122)**

Unloading Drying Tumbler

A drying tumbler that can be tilted on its mount and unloaded in 12 secs. was announced by Huebsch Mfg. Co., Milwaukee, Wis. The cylinder is 42x42 ins., and quick loading is possible through a 34-in. door. **(A-123)**





Screen-Printing Unit

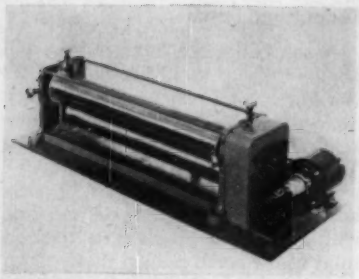
An electrically driven squeegee-type screen-printing unit was introduced by Wall & Co., Bolton, Lancashire, England.

The unit is made of light alloy metal, and the squeegee blades are supplied with edges in three degrees of hardness for various fabrics. **(A-124)**

Cloth-Winding Machines

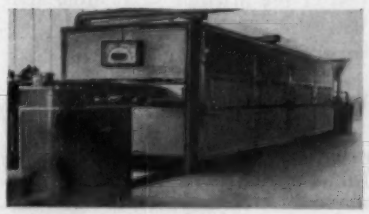
Winding machines for many purposes were marketed by Hobbs Mfg. Co., Worcester, Mass. **(A-125)**

For more information, circle the A-number on Reader-Service post card.



Roller Coater

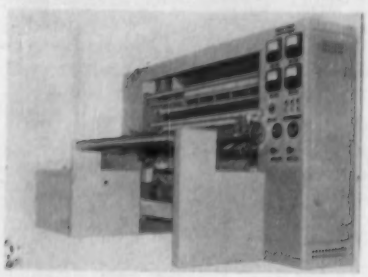
A bench-model roller coating machine was introduced by L. R. Wallace & Co., Pasadena, Cal. Four types of coaters are offered for double-, top-, and bottom-coating operations. Roller lengths up to 52 ins. are available and can be specified in steel or synthetic rubbers. (A-126)



High-Speed Tenter

A tenter with a combination pin-and-clip chain and improved drying equipment was announced by Cosa Corp., New York, N. Y.

The tenter chain operates with automatic change-over so that either the pins or clips engage the fabric to be dried. A 30-ft. tenter has an evaporative capacity of about 1,300 lbs. of water per hour. (A-127)



Compacting Machine

A machine that provides dimensional stability to yarns and fabrics by a new principle of operation was announced by Riggs & Lombard, Inc., Lowell, Mass.

The machine will be sold outright to licensees. Fabric Research Laboratories, Dedham, Mass., was the original developer of the process. (A-128)

Radial-Spring Dye Tube

A radial-spring dye tube that offers little resistance to dye liquor and no resistance to shrinkage or expansion of the yarn was announced by Lebrecht Tigges K. G., Wurpertal-Cronenberg, Germany. (A-129)

Washer-Extractor Unit

A cylinder-type machine that can wash and extract 50 lbs. of fabrics was announced by G. A. Braun, Inc., Syracuse, N. Y. Offered as an auxiliary scouring, dyeing, or finishing machine for small lots, the washer can also be obtained in 100- and 200-lb. capacities. (A-130)

Silk Screen Printer

An automatic screen-printing machine was announced by American Automation, Inc., Chicago, Ill. A built-in infrared dryer dries each color before the next color is applied. (A-131)

Heavy-Duty Batcher And Inspecting Machine

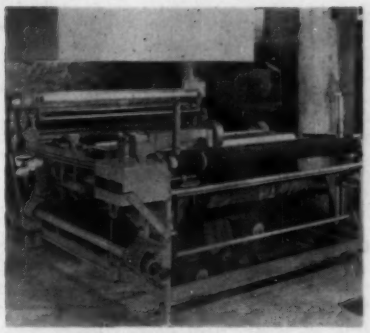
Made by G. Durrant & Sons Ltd., and sold in the U. S. by R. J. Dealey & Sons, Boston, Mass., an inspecting machine designed to handle large rolls can be used for inspecting, measuring, and rebatching any type of fabric. (A-132)

Flock-Printing Machine

An electrostatic system deposits the flock in a machine developed by Text-O-Stat, Olten, Switzerland. (A-133)

Decatizer

An enclosed decatizer with a separate cylinder for the extraction and drying cycle of the decatizing process was announced by Kettling & Braun, Minden, Westphalia, Germany. Stepless speed control up to 150 yds. per min. is provided. Wrapper tension can be regulated to suit the fabric. Stellite American Co., New York, N. Y., is the American representative. (A-134)



Sponging Machine

A machine that will perform six different sponging and finishing operations in one run was developed by Mawaco Machine Co.,Inc., Brooklyn, N. Y. Fabric can be steamed, brushed, sponged, cooled, measured, and rolled in one operation on the machine. (A-135)

Selvage Trimmer

A machine for removing threads from fabric selvages was developed by Hermas Machine Co., Hawthorne, N. J. A loop-clipping attachment clips floats on box-loom fabrics so that the trimmer can remove the hanging ends. (A-136)

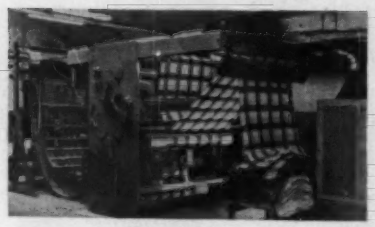
Clip Collector

An attachment that removes clips from fabric selvages before they can cause damage in subsequent processing was announced by Guider Roll and Service Co., Daytona Beach, Fla. (A-137)

Hosiery-Finishing Machine

A hosiery-finishing machine that doubles production without increasing floor space was developed by Turbo Machine Co., Lansdale, Pa. It is a two-operator machine for preboarding and finish-boarding seamless and full-fashioned stockings. (A-138)

For more information, circle the A-number on Reader-Service post card.



Cloth Batcher

A cloth-rolling and measuring machine that produces perfectly wound rolls of fabric with little tension was marketed by Tailor-Made Co., Lowell, Mass.

The roll carriage follows the cloth rather than the cloth being guided to a definite position in this machine. Electrically operated feelers judge the cloth position and actuate the carriage to maintain straight-line rolling. (A-139)

Woolen and Worsted Shear

A single-blade shear that features 21,600 cuts per minute at a linear fabric speed of 20 to 60 yds. per min. was announced by Kettling & Braun, Minden, Westphalia, Germany. Stellite American Co., New York, N. Y., is the American representative. (A-140)

High-Frequency Alternator

High-frequency generators ranging in size from 2 to 150 kw. were produced by Acoustica Associates, Inc., Long Island, N. Y. Applications in the dyeing field include jigs, pads, scouring machines, and package-dyeing machines. (A-141)

Flocking Machine

A machine designed to apply flock to wide fabrics was marketed by Vollenweider & Saladin AG, Horgen, Switzerland. Flock deposition is by electrostatic means, and recuperation of excess flock is provided for. Maximum speed is over 5 yds. per min. Fabrics up to 56 ins. wide can be flocked on the machine. (A-142)

Knitted-Fabric Dryer

A dryer for tubular knitted fabrics was developed by Joseph Pernick Co., Inc., Maspeth, N. Y.

The dryer, mounted horizontally, handles tubular knitted goods direct from the extractor. Drying speeds up to 15 yds. per min. are possible. The fabric may be delivered either in a roll or folded flat. (A-143)

Radiant-Heat Dryer

Electrical elements enclosed in a heat- and shock-resistant sheath are used in a textile predryer marketed by Velotron, Inc., New York, N. Y.

The heating units are mounted in a polished reflector. No housings are necessary to obtain high efficiency from the units because they produce chiefly a wide band of radiant-heat energy. The units can be had in lengths to 60 ins. (A-144)

Carpet Tenter

A tenter frame especially designed for drying carpeting was developed by Southern Textile Works, Anderson, S. C. The machines are adjustable to take carpeting 9 ft. wide to 16 ft. wide. (A-145)

Shearing-Brushing Range

A cloth-finishing range for cotton, synthetic, and blended-fiber fabrics was announced by Curtis & Marble Machine Co., Worcester, Mass.

The shearing machine features enclosed mechanism with access through removeable panels, individually driven shear blades, and automatic seam protectors. (A-146)

Selvage-Slack Eliminator

An attachment for the usual guider system used on pads and tenters that will prevent slack selvages from interfering with guider operation was announced by Guider, Roll & Service Co., Daytona Beach, Fla. (A-147)

Tufted-Carpet Fnishing Range

A backing and drying range for finishing tufted carpets was developed by Tufting Machinery Ltd., Westminster, London, England. Latex compounds are applied in a roller coater; and drying may be accomplished by infrared heat, steam-heated air, or a combination of the two methods. (A-148)

Cloth Shear

A shear that performs a double shearing on both sides of the fabric with only two cutters was introduced by Sam. Vollenweider Ltd., Horgen, Switzerland. Completely equipped with cloth guides and an automatic seam-detecting device, the machine will operate up to 110 yds. per min. through a variable-speed gear. (A-149)

Examining Perch

A constant-speed batcher that will handle rolls up to 39 ins. in diameter is a feature of a perch built by Ulrich Steinemann Ag. Ltd., St. Gallen-Winkeln Maschinenfabrik Engineering Works, Switzerland.

Fabric may be run forward or backward. Wide models may be supplied with a seat that travels on a track in front of the perch to help the operator scan the fabric without fatigue. (A-150)

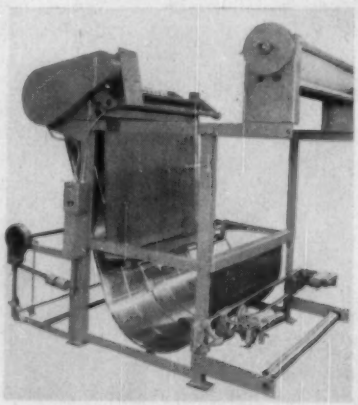
Pleating Machine

A pleating machine for fabrics of all fibers was announced by Karl Rabofsky GmbH., West Berlin, Germany. The machine operates without the use of interleaving paper or felts and produces pleats of various sizes without interchanging knives or rollers. Production of the machine varies from 120 yds. per hr. on heavy goods to 210 yds. per hr. on light materials. (A-151)

Two-Roll Pad

A general-purpose pad was developed by Maag Bros. Machine Works, Kusnacht-Zurich, Switzerland. The machine features pneumatic loading and can exert pressures up to 13 tons across the face of the rolls.

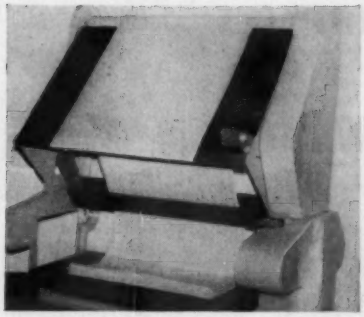
The trough used to carry the dyes or finishing materials can be raised or lowered by air pressure. The padder can be supplied with a general-purpose trough or one designed especially for dyeing. (A-152)



Cloth Feeder

A vertical cloth feeder designed for floor installation was announced by Cook-P&N Machine Co., Inc., Boston, Mass. The machine features an improved nip-roll design that eliminates vibration and an electrically operated brake for the let-off unit. (A-153)

For more information, circle the A-number on Reader-Service post card.



Inspection Machine

An inspection machine designed for examining silk and rayon fabrics was marketed by G. Durrant & Sons Ltd. R. J. Dealy & Sons, Boston, Mass., is the U. S. agent. (A-154)

Safety Rubber Stoppers

Rubber stoppers with enlarged holes lined with a sealing compound were announced by Fisher Scientific Co., Pittsburgh, Pa. (A-155)

Cloth Dryer

A roll dryer with improved air flow and adjustable hydraulic drive was announced by National Drying Machine Co., Philadelphia, Pa. Stainless-steel expander rolls located inside the dryer eliminate creasing of fabric passing through. The hydraulic drive can be adjusted to give any tension. (A-156)

Center-Bar Let-off

A let-off designed for heavy duty in finishing plants was marketed by Mount Hope Machinery Co., Taunton, Mass. The center bar revolves on phenolic casters and has an adjustable braking mechanism. The center bar is automatically locked in place when it is pushed into the bearing surfaces and is released by a foot treadle. (A-157)

Railway Sewing Machine

Three general arrangements are possible with a railway sewing machine, Model-LC, made by Curtis & Marble Machine Co., Worcester, Mass.

The machine can be used (1) as a track, or top, to be mounted on various machines or to replace existing equipment; (2) as a stationary machine mounted on legs; and (3) as a portable machine mounted on legs that have locking casters. Either a chainstitch or butted-seam sewing head can be supplied. (A-158)

Automatic Decatizer

An automatic decatizer was marketed by Finishtex Appreturmaschinen, Stuttgart-Vaihingen, Germany.

Three types of machines are available for woolens, knitted fabrics, and synthetics. Because of the automatic features, one operator can tend two machines. (A-159)

Infrared Dryers

An infrared drying unit that uses a General Electric quartz-tube heating element was announced by J. E. Doyle Co., Cleveland, Ohio. (A-160)

High-Speed Jet Dryer

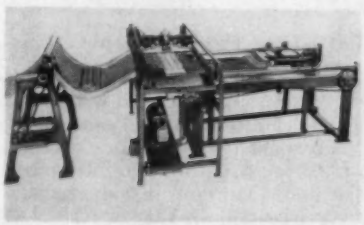
A single-pass tenter dryer for synthetics, blends, and woolen fabrics was marketed by James Hunter Machine Co., North Adams, Mass. The pin tenter is equipped with an overfeed, Askania guider, and a folder.

Automatic control of the whole operation is centralized in two cubicle panels at the front of the dryer. A dynamic braking system provides quick stops even at top speed.

Pin-rail design angles the pins 40° from vertical after passing into the drying section of the tenter so that air currents cannot blow the fabric off the pins. (A-161)

Variable-Speed Drive

A variable-speed drive that controls the speed of take-ups for textile-finishing and cloth-inspecting machines at any speed between 105 and 2,300 rpm. was announced by Electro Dynamic Div., General Dynamics Corp., Bayonne, N. J. (A-162)



Automatic Cutting Machine

Tablecloths, napkins, towels, and similar articles woven or printed in series can be separated into the proper units by an automatic cutting machine developed by Sjöström Machine Co., Boca Raton, Fla. (A-163)

Industrial Sewing Machine

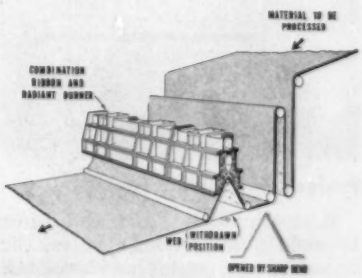
A two-needle top-feed sewing machine that will trim, bind, and sew in one operation was introduced by Union Special Machine Co., Chicago, Ill. (A-164)

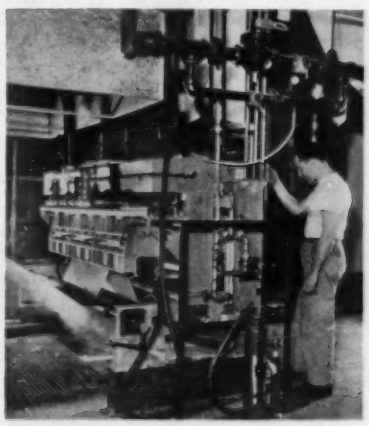
Rubber-Belt Shrinking Range

A complete shrinking range consisting of a tension-control unit, cloth conditioner, clip expander, rubber- belt shrinking unit, and a finishing section was announced by Cook-P & N Machine Co., Boston, Mass. (A-165)

Sewing Machine

A sewing machine made by industrie-Werke, Karlsruhe, Germany, is characterized by extremely high-speed operation, from 4,500 to 6,000 stitches per minute. (A-166)





Synthetic-Fiber Singer

A singer developed by Selas Corp. of America, Philadelphia, Pa., is particularly suited to singeing synthetic-fiber fabrics. (A-167)

CONTINUED ON PAGE 164

For more information, circle the A-number on Reader-Service post card.

6 AUXILIARY EQUIPMENT

Many auxiliary items used in the manufacture and handling of textiles were introduced in 1956. Among the different items were a number of sewing machines, some of them having automatic features that enable one operator to tend several machines.

It is becoming possible to do more and more textile handling by machine, as shown by the large number of lift trucks and other materials-handling equipment brought out during the year.

New types of hand trucks for specialized uses were also introduced.

Plastics are finding many uses in textile plants. New items from garbage cans to pipe, from molded tanks to product packaging, are being made of plastics.

Paper is another material that is being used in many mill auxiliary items. Tapes, tubes, and packages for raw material and finished products are just a few of the many useful items with paper content.

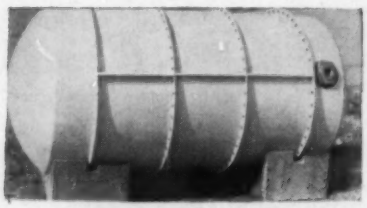
Cleaners Improved

Floor, machinery, and ceiling cleaners were among the improved items brought out during the year. Ventilators, fans, and plant deodorizers are among the items developed to make the mill a better place in which to work.

Electronics continued to play a major role in some mill processes; now television has been introduced in a closed-circuit system for viewing widely spaced objectives in and about the mill.

Among other developments of 1956, there were some announced improvements in plant lighting, in valves, pumps, paints, lubricants and lubricators, storage racks, and other items.

It is predicted that auxiliary equipment will play an ever-increasing role in textile manufacturing. Many of the auxiliary items play a dual role by eliminating manual labor and making the job easier and at the same time make it possible to produce a better product at a lower cost.



Preformed Molded Tanks

Resin-reinforced Fiberglas is used to mold tank sections that can be assembled into vertical or horizontal tanks up to 1,000-gal. capacity. Jones & Hunt, Gloucester, Mass., is the distributor. (A-168)

Box-End Coding Machine

A machine for imprinting codes and product information on flat box ends to aid identification was developed by Industrial Marking Equipment Co., Brooklyn, N. Y. The unit operates at a speed of 30 impressions per minute. A variety of colors can be used. (A-169)

Industrial Vacuum Cleaner

An industrial vacuum cleaner that operates with compressed air only was announced by American Balmes Corp., Newark, N. J. The unit, connected to the existing air lines found in most mills, is said to develop more than twice the suction of a standard 1-hp. electric unit equivalent in size. (A-170)

Rider-Type Power Sweeper

A compact 28-in. rider-type power sweeper for mill aisles and warehouses was developed by G. H. Tennant Co., Minneapolis, Minn. The sweeper, Model 50, is 60 ins. long, without a side brush, and turns in approximately its own length. (A-171)

Portable Detacking Machine

A detacking machine that will remove tacking at a rate of 110 yds. per min. was developed by Curtis & Marble Machine Co., Worcester, Mass. (A-172)

Round-Knife Cutter

A cloth-cutting machine that uses a round knife to cut stacked fabric was announced by Eastman Machine Co., Buffalo, N. Y. (A-173)

Oil-Resistant Tape

Benjamin Booth Co., Philadelphia, Pa., announced that its Supr-O-Tape is now available with Hy-Car coating that resists damage from oil or emulsions. (A-174)

Cutting Machines

Fabric-cutting machines with straight or circular knives were announced by Eastman Machine Co., Buffalo, N. Y. (A-175)

For more information, circle the A-number on Reader-Service post card.

Dragline Cart

An overhead dragline cart with telescopic mast was announced by Lewis-Shepard Products, Inc., Watertown, Mass. (A-227)

Steel Workbench

A workbench for section men or maintenance mechanics was manufactured by Bennett Rose Co., Roebuck, S. C. The workbench is all steel except the top, which is 2-in.-thick first-grade pine. A 2-in. guard rail surrounds the two ends and back side. (A-176)

Cloth Truck

A truck for doffing or storing rolls of cloth was offered by Bennett Rose Co., Roebuck, S. C. The truck, of all-steel construction, is 72 ins. long, 24 ins. wide, and 37 ins. high. (A-177)

Cutting Table

Cutting tables of rigid construction and with smooth, splinter-free tops were offered by Textile Trimming & Boarding Machine Co., Reading, Pa. Standard units are available in four-foot sections in any width from 36 ins. in 6-in. increments. (A-178)

Yarn-Splicing Adhesive

A flexible yarn-splicing adhesive, called No-Knot, was announced by Industrial Products Div., John Silver Corp., Arlington, Mass. The adhesive is available in several different colors or in a neutral shade for yarn to be dyed. (A-179)

Textile Trays

Trays for handling cakes, cones, cheeses, and pirns of synthetic yarns were developed by Thompson Textessories, St. George's Works, Lancaster, England. The trays are made from fabricated lightweight high-tensile-strength aluminum alloy. (A-180)

Cloth-Handling Truck

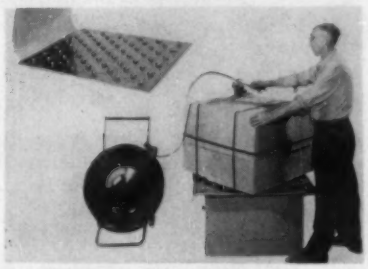
Lewis-Shepard, Watertown, Mass., announced a new high-lift JackStacker for storing cloth in textile storage areas. Remote controls make it possible to completely operate the lift from the fork carriage of the truck. (A-181)

Masonry Wall Finish

A material that serves as a moisture barrier for above-grade masonry walls is available from Flexrock Co., Philadelphia, Pa. One gallon covers approximately 300 sq. ft. for one coat. (A-182)

Lift Jacks for Platforms

A lift-truck system consisting of a lift jack and engaging bracket and two-wheel platforms was offered by Hamilton Caster & Mfg. Co., Hamilton, Ohio. (A-183)



Top for Strapping Table

A top for a strapping table that lets an operator stand in one position while rotating heavy containers for packing or strapping was announced by Signode Steel Strapping Co., Chicago, Ill. (A-184)

Hexagon Steel

Hexagon steel in 3- to 4-in. sizes was added to the line of steel made by LaSalle Steel Co., Chicago, Ill. (A-185)

Conductive Floor Wax

A conductive floor wax to be used wherever static electricity is a danger was developed by Huntington Laboratories, Huntington, Ill. (A-186)

Heavy-Duty Fans

Heavy-duty fans for duct systems, system boosters, fumes, and smoke were announced by Chicago Blower Corp., Franklin Park, Ill. (A-187)

Winch for Fork Truck

A winch attachment for fork trucks was announced by Lewis-Shepard Products, Inc., Watertown, Mass. The winch is for pulling heavy loads out of highway trailers where the fork truck must be kept in a stationary position. (A-188)

Metal-Cutting Machine

An abrasive cut-off machine, made by Beaver Pipe Tools, Inc., Warren, Ohio, cuts all shapes and sizes of materials, including aluminum, copper, brass, carbon steel, stainless steel, and ceramics. (A-189)

Storage Cabinets

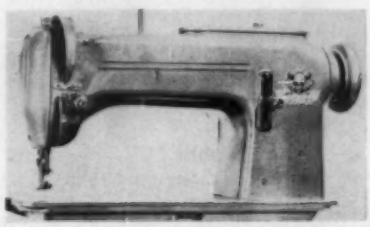
Steel storage cabinets for storing inventory records, account books, ledgers, and similar materials are available from Standard Pressed Steel Co., Jenkintown, Pa. (A-190)

Textile-Mill Casters

Powder-metal wheels, manufactured by Bassick Co., Bridgeport, Conn., are available in place of plain-bearing semisteel wheels. (A-191)

In-Plant Fire Trucks

A complete line of easily maneuverable in-plant fire trucks was announced by Ansul Chemical Co., Marinette, Wis. (A-192)



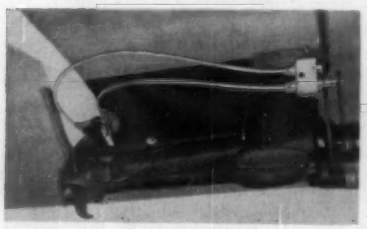
Fine-Sewing Machine

The Pfaff Model 234 sewing machine will produce up to 4,000 stitches per minute on underwear, sheeting, handkerchiefs, or tricot. The machine was introduced by Pfaff Industrial Sewing Machine Co., E. Orange, N. J. (A-193)

For more information, circle the A-number on Reader-Service post card.

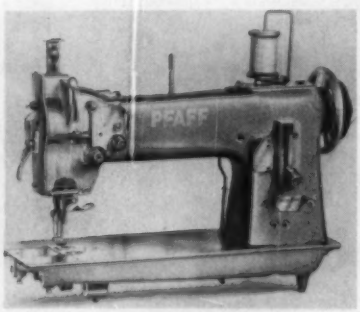
Self-Cleaning Nozzle

A self-cleaning spray nozzle for textile-mill central-system air conditioners was announced by Carrier Corp., Syracuse, N. Y. (A-194)



Auxiliary Sewing-Machine Feed

A power-driven attachment that controls the fabric feed to a sewing machine was introduced by Dura-Bac, Inc., New York, N. Y. (A-195)



Compound-Feed Sewing Machine

A heavy-duty, high-speed sewing machine was announced by Pfaff Industrial Sewing Machine Corp. Wilcox & Gibbs Sewing Machine Co., New York, N. Y., is the United States representative. (A-196)

Trucks

A series of industrial lift trucks with automatic gear shift was added by Yale & Towne Mfg. Co., Philadelphia, Pa. (A-197)

Waste-Can Vacuum Tank

A vacuum-tank kit was announced by Premier Co., St. Paul, Minn. It is used to convert a 30-gal. waste can to a vacuum cleaner. (A-198)

Water Chiller

A water and liquid chiller for air conditioning and industrial applications was announced by American Coils Co., Newark, N. J. (A-199)

Phillips Screwdriver Set

A set of Phillips screwdrivers for turning hardened self-tapping screws was made available by Snap-On Tools Corp., Kenosha, Wis. (A-200)

Air Filter

A dust collector used to collect dust, lint, chips, and fumes was announced by Torit Mfg. Co., St. Paul, Minn. (A-201)

Correspondence Aid

A duplicating technique for handling intercompany correspondence was announced by Remington Rand, New York, N. Y. (A-202)

Parts Pans

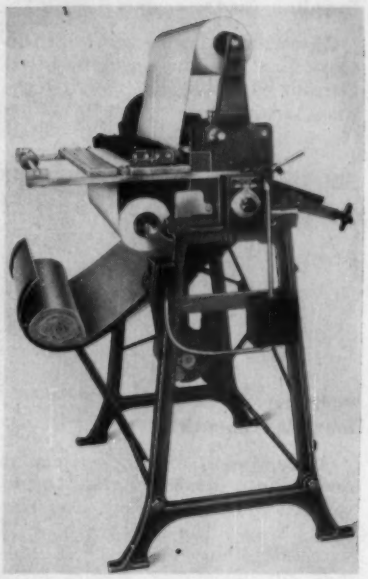
Parts pans made from heavy-gauge steel are offered by A. O. Pfister Co., Cleveland, Ohio. (A-203)

Industrial Vacuum Cleaner

An explosionproof industrial vacuum cleaner was introduced by Multi-Clean Products, St. Paul, Minn. The unit is for wet or dry cleaning. (A-204)

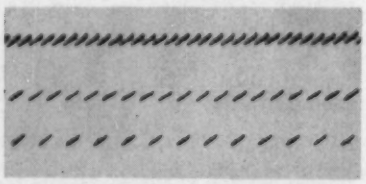
Flexible Hose

A lightweight flexible hose, suitable for application with air conditioning, materials handling, ventilating, dust collection, and fume control, was announced by Flexaust Co., New York, N. Y. (A-205)



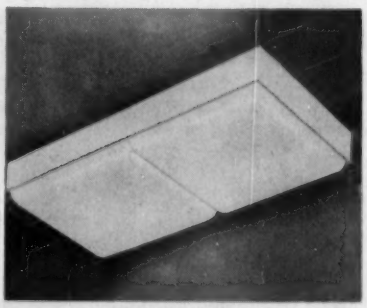
Pleating Machine

A high-speed heavy-duty pleating machine that will produce krystal and Van Dyke pleats as well as scalloped effects was introduced by Chandler Machine Co., Ayer, Mass. (A-206)



Slant-Stitch Sewing Machine

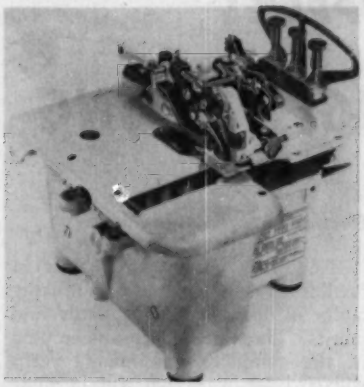
A sewing machine that produces slanted stitches was announced by Columbia Sewing Machine Corp., New York, N. Y. (A-207)



Color-Matching Light

A fluorescent lighting unit that produces the equivalent of noon north light was introduced by Duro-Test Corp., North Bergen, N. J. (A-208)

For more information, circle the A-number on Reader-Service post card.



Sewing Machine

Wilcox & Gibbs Sewing Machine Co., New York, N. Y., marketed a sewing machine that will sew a row of double-thread chain stitching in conjunction with two- or three-thread overedging or sergeing stitches. (A-209)

Concrete Bond

An emulsified latex, said to set up an almost indestructible bond between old concrete, metal, and wood surfaces, was offered by United Laboratories, Inc., Cleveland, Ohio. (A-210)

Welding Head

A welding head for automatic welding applications employing the inert gas-consumable electrode method was announced by Air Reduction Sales Co., New York, N. Y. (A-211)

Lift Truck

A low-lift platform-type truck equipped with a load-scale attachment was announced by Lewis-Shepard Products, Inc., Watertown, Mass. (A-212)

Covering for Paving

A pitch emulsion that is insoluble in oils and gasoline and protects the surface of black-top paving was developed by Maintenance Engineering Co., Philadelphia, Pa. (A-213)

Plastic-Bound Magnets

Permanent magnets bound in plastic that can be formed into a variety of shapes or units containing shafts or bearings were announced by Baermann-Nord Corp., Amherst, Ohio. (A-214)

Reinforced Paper Tape

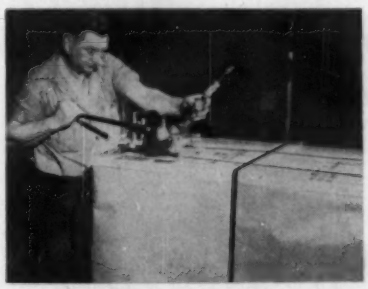
Glass fiber is used to reinforce paper tape to make a sealing material offered by L. O. F. Glass Fibers Co., Toledo, Ohio. (A-215)

Reducing Valve

A direct-operated valve for use on water mains was developed by Spence Engineering Co., Walden, N. Y. (A-216)

Diaphragm Valve

Straight-through flow is provided in a diaphragm valve marketed by Stockdale Engineering Co., Haddonfield, N. J. (A-217)



Air-Powered Strapping Unit

An air-powered strapping machine that automatically tensions $\frac{5}{8}$- and $\frac{3}{4}$-in. steel strapping, seals it, and cuts it off is available from Signode Steel Strapping Co., Chicago, Ill. (A-218)

Lubricants

Two special purpose lubricants were added to the line of lubricants made by Alpha Molykote Corp., Stamford, Conn. (A-219)

Magnesium Pallets

A new lightweight pallet dolly made of magnesium was announced by Magline, Inc., Pinconning, Mich. (A-220)

Packaged Machine Mounts

A convenient package of machinery-mounting material that requires no bolting or cementing was announced by Clark, Cutler, McDermott Co., Franklin, Mass. (A-221)

Floor-Repair Material

A product that will repair cracks or holes in concrete floors was offered by Stonhard Co., Philadelphia, Pa. (A-222)

Steam Traps

Forged-steel and cast semisteel traps were announced by Armstrong Machine Works, Three Rivers, Mich. (A-223)

Phenolic-Resin Caster

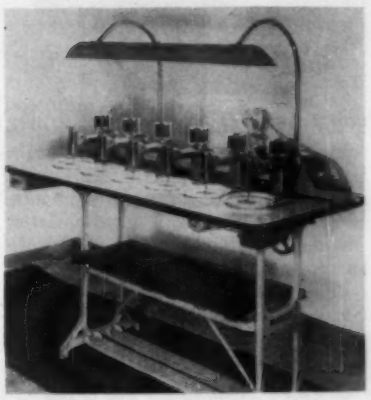
A caster wheel that does not mark the floors was offered by Rapids-Standard Co., Inc., Grand Rapids, Mich. (A-224)

Coated-Fabric Cutter

A machine that will automatically cut, convey, and stack coated fabrics was marketed by Hobbs Mfg. Co., Worcester, Mass. (A-225)

Solenoid Valve

A double-solenoid, pilot-operated four-way valve was announced by Valvair Corp., Akron, Ohio. (A-226)



Embroidery Machine

The Marco four- and six-head automatic embroiderer for series production of small surface designs was announced by Alfred Hofmann & Co., West New York, N. J.

An unskilled operator can tend up to three machines, which work at 275 stitches per minute per head.

The machines operate with jacquard cards. The embroidery area is 100x250 mm. (A-228)

CONTINUED ON PAGE 153

7 REGULATING, MEASURING, TESTING

Many machines were developed during 1956 to test fibers and fabrics for drape, stiffness, strength, abrasion resistance, pilling, fiber fineness, tension, density, hysteresis, soiling, electrostatic charges, thickness, compression, and recovery.

An electronic instrument was introduced to be used with a color photometer to compute color deviations on a dial. These new instruments will speed the correction of dye formulas and help to put color matching on a scientific basis.

Another step toward more-scientific control of textile manufacturing are several instruments to measure the speed of yarn.

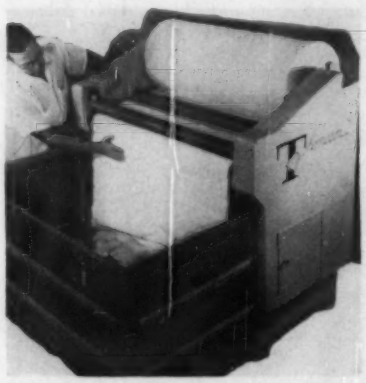
These instruments are proving themselves useful in setting up knitting machines and other textile equipment where variations in yarn speed detract from quality.

Infrared principles are being used to solve some of the mysteries that surround synthetic fibers. Infrared rays are also being used to give close control of heat for drying and heat setting.

Electronics Are Used More

Electronics are finding a niche in textiles as a medium for checking faults in rapidly moving yarns and fabrics. These new ideas will be used in the completely automated plant where visual inspection will be done by electronic eyes.

Electronics are also providing a more-rapid means of determining fiber thickness. One machine can now count 20 determinations per hour and record the results on a counter.



Lap Tester

An electronic lap tester to measure both short- and long-term variation in picker laps was developed by Thomason Textile Service, Inc., Charlotte, N. C. The tester uses a Uster Varimeter as a measuring head.

The Thomason lap tester permits the Uster Varimeter to measure yard-by-yard variation and average weight per yard directly from the Varimeter dial. (A-229)

Fiber Tester

A machine for testing mechanical properties of textile fibers was developed by Karl Frank GmbH., Weinheim-Birkenau, West Germany. The instrument is equipped with a standard curve-recording unit and two computers that automatically add the individual strength and elongation figures obtained during the test. (A-230)

Projection Microscope

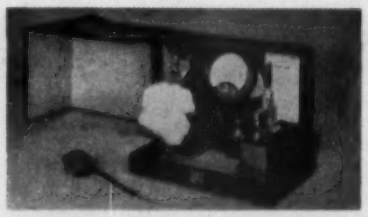
A projection microscope designed for the measurement and analysis of wool fibers was announced by William J. Hacker & Co., Inc., New York, N. Y. Magnification ranges from 75 to 500X. (A-231)

Felting Machine

A felting machine manufactured by Anton Guillot K. G., Germany, was developed to produce sample felt pads for wool, blends, or color samples for pressed felt or woven fabrics. (A-232)

Micronaire Tester

An improved Micronaire fiber-fineness tester, announced by Sheffield Corp., Dayton, Ohio, has automatic fiber compression, an illuminated scale, and a new well-type manometer. The instrument is said to be 200% manual-compression model. (A-233)



Portable Arealometer

A portable Arealometer, which weighs 15 lbs. and is housed in a 13x9x11-in. leather carrying case, was announced by Special Instruments Laboratory, Inc., Knoxville, Tenn. (A-234)

Nep Standards

An improved method of estimating neps in card web was developed by the Swedish Institute for Textile Research, Gothenburg, Sweden. (A-235)

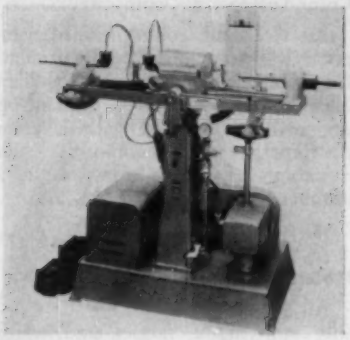
Twist-Counter Attachment

A pendulum attachment that can be applied directly to any standard Scott twist counter was made available by Scott Testers, Inc., Providence, R. I. The attachment is designed to help in analyzing singles twist. (A-236)

Yarn-Number Scale

A direct-reading yarn-number scale was announced by Exact Weight Scale Co., Columbus, Ohio. The instrument is accurate to $\frac{1}{10}$ grain, and only one weighing is necessary to determine a yarn number. (A-237)

For more information, circle the A-number on Reader-Service post card.



Tester for Tire Cords

Improved tensile testing of tire cords is made possible by Spruance clamps and auxiliary equipment announced by Scott Testers, Inc., Providence, R. I. The clamps are available on Scott's IP-4 Tensilgraph and are pneumatically controlled. (A-238)

Tension Analyzer

Better tension control in spinning, winding, and warping is possible with a new model of the Brush Tension Analyzer announced by Brush Electronics Co., Cleveland, Ohio. The analyzer accurately measures and records actual tension levels and tension variations in any filamentary material while it is being processed. (A-239)

Yarn-Speed Meter

The Speedotex for measuring the speed of yarn was announced by Duke and Briggs Engineering Co. Ltd., Manchester, England.

The device is used to measure the speed of the yarn as it is fed into the machine. (A-240)

Recording Tensiometer

An increased-range sensing head for its high-speed recording tensiometer was announced by Custom Scientific Instruments, Inc., Kearny, N. J. The new head has a maximum range of 50 lbs. and a maximum sensitivity of 1-mm. deflection per 30 grams of tension. (A-241)

Fabric-Burst Tester

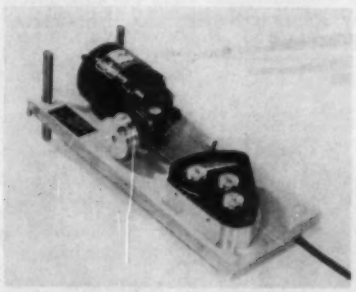
A fabric-burst-strength tester was developed by Pacific Airmotive Corp., Burbank, Calif. The burst-indicating gauge records the maximum burst pressure required. (A-242)

Textile-Testing Machine

A tensile-strength tester was marketed by Karl Frank GmbH., Weinheim-Birkenau, Weinheim, West Germany. The machine features a wide drive-range ratio of 10 to 1,000 mms. per min. and a constant rapid-return speed of 1,500 mms. per min. (A-243)

Tester

A tester that will evaluate tensile strength, hysteresis, and compression from zero to 2,000 lbs. was announced by Scott Testers, Inc. Providence, R. I. (A-244)



Tensiometer

An instrument designed to measure thread tensions on sewing machines was introduced by Custom Scientific Instruments, Inc., Kearny, N. J. The machine is also used to determine the effect of various finishes and twist on threads and to evaluate proper tensions for operation. (A-245)

Inspecting and Winding Machine

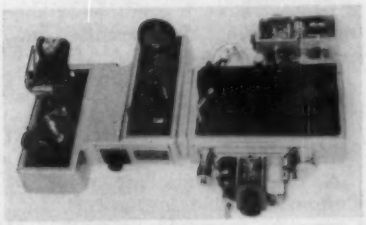
A machine for inspecting gray-room seams in large rolls automatically detects seams and stops the machine so that the seams may be inspected and resewn if necessary. Manufactured by Birch Bros., Inc., Somerville, Mass., the machine will run at 130 to 260 yds. per min. (A-246)

Pilling and Wear Tester

Fabric Development Tests, Brooklyn, N. Y., announced an improved pilling and wear tester. A 5-min. test using new durable wear-pill abradants gives a better definition of lower levels of pilling with clear-finished woven fabrics, soft woven fabrics, and knit goods. (A-247)

Fiber-Fineness Indicator

The electronic fiber-fineness indicator made by Fiber Research Corp., Boston, Mass., is a desk-size machine to rapidly scan the diameters of fibers on a sample slide. The average diameter of the sample and the percentage of fibers whose diameters are within standard U. S. Dept. of Agriculture distribution groups are computed. (A-248)



Spectrophotometer

The Model 13 spectrophotometer, introduced by Perkin-Elmer Corp., Stamford, Conn., can be used for examining synthetic fibers.

Among the subjects that can be examined are solvent capture, exposure to sunlight or ultraviolet radiation, finishes, ageing, fiber orientation, and identification of unknown fibers. (A-249)

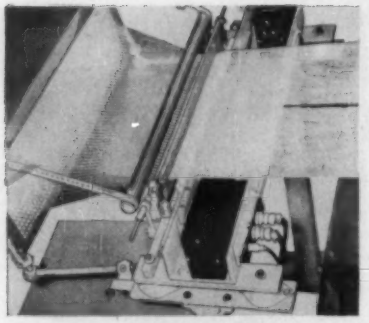
Titrometer

Redesigned for closer accuracy, the Titrometer announced by Precision Scientific Co., Chicago, Ill, titrates, automatically controls the rate of reagent-feeding, and automatically plots titration curves. (A-250)

Stiffness Tester

An instrument for testing the drape of fabrics was announced by Fabric Development Tests, Brooklyn, N. Y. (A-251)

For more information, circle the A-number on Reader-Service post card.



Automatic Yarn Inspector

Lindly & Co., Inc., Mineola, L. I., N. Y., developed an automatic yarn inspector for the 100% inspection of defects in multifilament yarns. The machine automatically counts the yarn defects for quality-control purposes or stops the operation for their removal. (A-252)

Thickness Tester

The Model CS-55 C&R Tester for thickness, compression, and recovery of fabrics was made available by Custom Scientific Instruments, Inc., Kearny, N. J. (A-253)

Accelerated Soil Tester

A laboratory machine made by Custom Scientific Instruments, Inc., Kearny, N. J., provides a method of soiling specimens for the evaluation of soil-retardant finishes. The machine is a ball mill into which the test fabric and a perforated capsule of soil are introduced. (A-254)

Stiffness Tester

A stiffness tester engineered to produce duplicatable results was developed by Karl Frank GmbH., Weinheim-Birkenau, Weinheim, Germany. The test board accommodates a fabric sample 300x50 millimeters. (A-255)

Automatic Abrasion Tester

An improved abrasion tester was marketed by Taber Instrument Corp., North Tonawanda, N. Y. The instrument is equipped with dual abrading wheels that traverse a complete circle on the surface to be tested and a control that may be set for 10, 100, or 1,000 cycles of abrading action or for continuous operation. (A-256)

Hot and Cold Cabinet

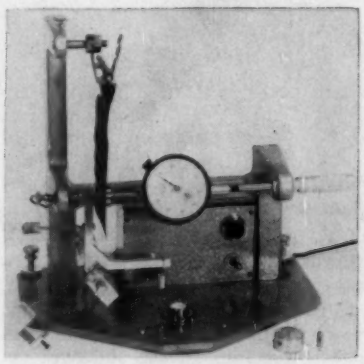
Packaged units that provide local controlled temperatures from −100 to +600° F. were offered by Atmosphere Control Co., Inc., Philadelphia, Pa. (A-257)

Humidification Control

A vacuum-controlled modulating system for suction atomizers in humidifying systems was announced by American Moistening Co., Providence, R. I. The system is fully automatic. (A-258)

Static-Pressure Indicator

A static-pressure indicator-controller designed to control at a pressure range of 0 to 0.2 ins. of water was announced by Johnson Service Co., Milwaukee, Wis. (A-259)



Fabric-Thickness Tester

Custom Scientific Instruments, Inc., Kearny, N. J., announced its Model CS-49 low-pressure thickness gauge designed for determining the thickness of soft, bulky fabrics. (A-260)

Electrostatic Voltmeter

The electrostatic voltmeter developed by the Institute of Textile Technology, Charlottesville, Va., is being manufactured by Custom Scientific Instruments, Inc., Kearny, N. J. The voltmeter detects and measures electrostatic charges on textile materials during processing. (A-261)

Table Viewer

A 2¼x2¼-in. table viewer was made available by Karl Heitz, Inc., New York, N. Y. The viewer renders a 4X magnified streoscopic image. (A-262)

Color-Tolerance Computer

An electronic color-tolerance computer was announced by Instrument Development Laboratories, Needham Heights, Mass. The instrument is designed to be used with a color photometer and computes color deviations that are expressed in a number on a single dial. (A-263)

Moisture-Content Control

An automatic control for the moisture content of fabrics and warps coming from textile dryers and slashers was manufactured by Mahlo Electro-Mechanical Works, Germany. (A-264)

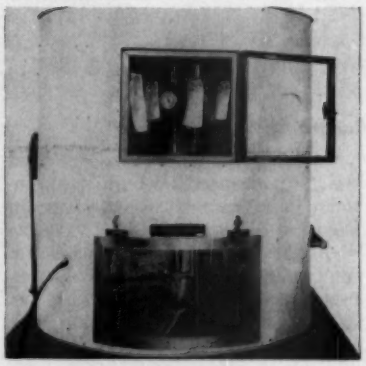
Dye-Package Density Comparator

An instrument that checks density of yarn packages was developed by Sheffield Corp., Dayton, Ohio. Valuable in determining the proper density for any yarn or package in respect to dyeing quality, the instrument operates by forcing a stream of compressed air through the package. (A-265)

Gas-Fired Dry Can

Improved control of heat at the surface of the dry can is claimed for a unit developed by Infra-Red Heat Co., W. Paterson, N. J.

The can is designed to be used for drying or heat-setting and is usually operated at a surface temperature of 350 to 400°, but it can be heated to 700° F. if desired. (A-266)



Gas-Fading Chamber

A machine for evaluating the effect of atmospheric gases on textiles was introduced by U. S. Testing Co., Hoboken, N. J. Samples are revolved in the lighted chamber by an electric motor. (A-267)

For more information, circle the A-number on Reader-Service post card.

Continuous Color Sampler

Continuous sampling of color and turbidity in liquids and slurries is accomplished by an instrument developed by Atomic Instrument Co., Cambridge, Mass. Color deviations are noted by a visual or audible warning. (A-268)

3-D Binocular Magnifier

Magnified vision in third dimension is made possible by binocular-type inspecting glasses announced by Edroy Products Co., New York, N. Y. (A-269)

Emission Microscope

An emission microscope was announced by Research and Controls Div., North American Phillips Co., Mount Vernon, N. Y. (A-270)

Sewage-Treatment Unit

A metering and mixing unit that feeds sodium silicate and chlorine gas in predetermined proportions to water or sewage was marketed by Wallace & Tiernan, Inc., Belleville, N. J. Chlorine activation of the silica provides a one-shot coagulant and sterilizing medium. (A-272)

Air Controller

An air controller was announced by Bristol Co., Waterbury, Conn. The instrument measures and controls pressure, vacuum, temperature, liquid level, flow, differential pressure, and mechanical motion. (A-273)

Proximity Relay

A relay that is activated by the proximity of movable material was announced by Excel Electric Service Co., Chicago, Ill. (A-274)

Thread-Tension Control

A Zytel disk that replaces the usual steel disk in a tension-control unit for sewing machines was announced by Sewmation, Inc., New York, N. Y. (A-275)

Centrifugal Rotating Screen

Centrifugal force keeps lint and other suspended matter free of the screen in a waste-water screen developed by Patterson-Kelley, Inc., E. Stroudsburg, Pa. (A-276)

Phasemeter and Plotter

A phasemeter and plotter developed by Hastings Instrument Co., Hampton, Va., incorporates compactness and light weight with increased signal strength and accuracy. (A-277)

Liquid-Level Control

A probe-type control that can be adjusted to suit the resistivity of a variety of liquids was announced by Machinery Electrification, Inc., Northboro, Mass. (A-278)

Laboratory Air Conditioner

A unit that provides close laboratory control of temperature and humidity was announced by Air Conditioning Industries Co., Houston, Texas. (A-279)

Level Indicator

A material-level indicator was announced by Fuller Co., Catasauqua, Pa. The indicator works with any dry, pulverized, or crushed material at temperatures to 300° F. (A-280)

Tube Expander

An air-operated tube expander that provides control of torque was offered by Thomas C. Wilson, Inc., Long Island City, N. Y. (A-281)

Explosive Valves

Valves that open or close when a built-in explosive charge is triggered were marketed by Conax Corp., Buffalo, N. Y. The valves are used for storage of gases or liquids under high pressure. (A-282)

Electronic Recorder

A line of recording millivoltmeters and microammeters was announced by Manning, Maxwell & Moore, Inc., Stratford, Conn. (A-283)

Panel Lubricates Gears

Self-contained panels for spraying lubricants on spur or herringbone gear trains at regular intervals were developed by Farval Corp., Cleveland, Ohio. (A-284)

Tester for Annunciator

A testing device for checking the performance of plug-in relays and flashers used in Panalarm annunciator systems was announced by Panellit, Inc., Skokie, Ill. (A-285)

Valve Actuator

A self-contained electro-hydraulic valve actuator that increases the advantages of electronic control systems was developed by Askania Regulator Co., Chicago, Ill. (A-286)

Vacuum Switch

A low-pressure switch was announced by Henry G. Dietz Co., Long Island City, N. Y. The unit is for use on very low vacuums where regulation is required in inches of water column. (A-287)

Rheostat for Battery Test

A simple water rheostat for test-discharging batteries to determine battery condition was designed by Gould-National Batteries, Inc., Trenton, N. J. (A-288)

Water Conditioner

A water conditioner that does not use chemicals and has no moving parts was announced by Packard Mfg. Co., Jacksonville, Fla. Principles of nuclear physics are employed to treat water so that scale and corrosion in boilers and pipes are prevented. (A-289)

Control Valves

The S-3000 series of valves was announced by Hammel-Dahl Co., Providence, R. I. Single-seat-construction valves are offered in nominal sizes from ½ through 8 ins. (A-290)

Microscope

The Leitz textile stereoscopic microscope was announced by George Scherr Optical Tools, Inc., New York, N. Y. (A-291)

Spectacles for Inspection

Safety spectacles designed for inspection wear were announced by Watchemaket Optical Co., Providence, R. I. (A-292)

CONTINUED ON PAGE 212

For more information, circle the A-number on Reader-Service post card.

Annual Review of EQUIPMENT and SUPPLIES

8 POWER GENERATION AND TRANSMISSION

The greatest achievement in power generation in 1956 was full output of motors built by the new NEMA specifications. Now all major motor manufacturers are able to supply the NEMA motors in practically all lines.

Mill men gain by smaller, more-powerful motors that take less production space.

With the features of totally enclosed lint-tight motors already proved, the additional more-versatile NEMA features make the mill engineer's and master mechanic's jobs much easier. Reports by mill men on the totally enclosed motors show that lubrication is the only maintenance necessary.

Gear motors are also being made by more manufacturers. The gear motors are fitting into the mill engineer's plans for better machine operation.

Motors and Drives

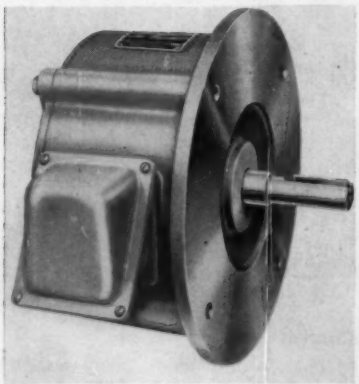
Adjustable-speed motors for yarn winding and warping became available from more manufacturers.

Fluid drives were made in greater numbers by more manufacturers. They are being used on cards, spinning frames, warpers, and more extensively on finishing equipment.

Electric brake motors were offered by additional manufacturers in 1956. Until recently, clutch-brake motors were used primarily on warpers and looms. Now, with an additional manufacturer supplying brake motors for looms, more of the motors will be used.

Investigations of mill installations of clutch-brake loom motors show the motors are very satisfactory. In a recent report, four mills with production units of clutch-brake motors said the motors are doing a good job. Another mill reported that 4½-year-old clutch-brakes are still not giving maintenance trouble.

The first large production installation of electric braking on cotton spinning frames was completed late in 1956. It offers many advantages to mill production men and maintenance men.



Flat-Type Motor

A flat-type totally enclosed fan-cooled or totally enclosed nonventilated motor was announced by Diehl Mfg. Co., Somerville, N. J. The motors are available in ½ to 7½ hp. Textile applications are for looms and other machines where there is a minimum of space. (A-293)

Variable-Speed Motor

An adjustable-speed motor in capacities up to 40 hp. for winding operations on synthetic fibers was announced by Allis-Chalmers Mfg. Co., Milwaukee, Wis. The speed of the motor can be adjusted over a 6- or 7-to-1 range. (A-294)

Motor Drive

A series of fractional-horsepower variable-speed motors was announced by Reliance Electric & Engineering Co., Columbus, Ind. Its main use is in continuous-processing applications where the drive speed is required to vary automatically with changes in liquid level, pressure, temperature, flow, weight, position, and color. (A-295)

Gear Motors for Slashers

A new line of gear motors for slashers was announced by Reliance Electric & Engineering Co., Cleveland, Ohio. The motors are available in both a.c. and d.c. from 1 through 60 hp. (A-296)

Magnetic Clutch

A permanent magnetic clutch, made in Germany, was put on the market by Locke Machine Co., Cleveland, Ohio. (A-297)

Low-Pressure Switch

A compact switch that will carry 15 amps. at 120 to 150 v. a.c. and operate on a static pressure of 1½ ins. was announced by Henry G. Dietz Co., Long Island City, N. Y. (A-298)

Hydraulic Cylinders

Logansport Machine Co., Logansport, Ind., announced a line of hydraulic cylinders for heavy duty. (A-299)

Small Gear Motors

A line of small gear motors announced by Doerr Electric Corp., Cedarburg, Wis., utilizes motors made in the NEMA 42 frame and is offered in 1/20 and 1½-hp. ratings. (A-300)

Small Electric Motors

A motor line featuring the 48-Frame motor was introduced by Century Electric Co., St. Louis, Mo. The new line of motors is made in 1/20 to ½ hp. (A-301)

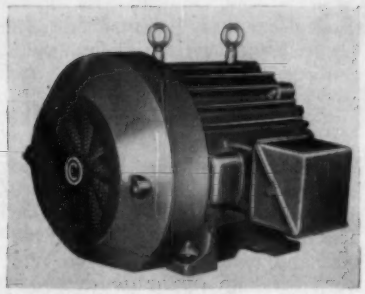
Variable-Speed Motors

Completely self-contained adjustable-speed a.c. motors were introduced by ACEC Electric Corp., New York, N. Y. (A-302)

Brake Built Into Motor

An electric-motor brake, built into the motor housing, was announced by Cleveland Electric Motor Co., Cleveland, Ohio. (A-303)

For more information, circle the A-number on Reader-Service post card.



Rerated NEMA Motor

Century Electric Co., St. Louis, Mo., announced the production of its rerated totally enclosed fan-cooled motor line in 7½- to 100-hp. series.

In addition to meeting all NEMA requirements, the motors have such features as: (1) six-layer insulation for the stator windings, and plastic-coated wire, (2) a ventilating fan that provides the same efficiency of cooling when the fan is operated in either direction, and (3) rib-type cast-iron frame construction for easy cleaning. (A-304)

Magnetic-Disk Brake

A magnetic-disk brake for rerated NEMA motor-frame sizes was made available by Stearns Magnetic, Inc., Milwaukee, Wis. (A-305)

Column-Mounted Motors

Gear motors made to mount on top of columns were introduced by ACEC Electric Corp., New York, N. Y. (A-306)

NEMA Motors

A line of general-purpose ball-bearing polyphase motors was announced by Wagner Electric Corp., St. Louis, Mo. (A-307)

Industrial Engines

Industrial engines that operate on gasoline, liquid petroleum gas, or natural fuels were introduced by Hall-Scott Motors Co., Berkeley, Calif. (A-308)

Fork-Truck Drive

An automatic transmission for fork lift trucks was announced by Towmotor Corp., Cleveland, Ohio. (A-309)

Steam Generator

A low-price, forced recirculating steam generator featuring a balanced feed was announced by Clayton Mfg. Co., El Monte, Calif. (A-310)

Sheaves for Drives

A line of lightweight sheaves, called Texlite, for fractional-horsepower and light-duty drives was announced by Allis-Chalmers Mfg. Co., Milwaukee, Wis. (A-311)

Tension-Regulating Drive

A low-cost tension-regulating drive made by Reliance Electric & Engineering Co., Cleveland, Ohio, has a capacity at constant tension from ⅛ to 2 hp. (A-312)

Emergency Lighting Unit

An emergency lighting unit containing a lifetime battery, made by Dynaseal Lighting Corp., Cambridge, Mass., is said to give many years of service with no maintenance. (A-313)

Hydraulic Transmission

A variable-speed hydraulic transmission in a compact self-contained unit was manufactured by Gerator May Corp., Baltimore, Md. (A-314)

Variable-Speed Motor

A variable-speed a.c. motor with a wide range of horsepower was offered by Bogue Electric Mfg. Co., Paterson, N. J. (A-315)

Clutch for Engines

A low-cost electric fan-clutch unit for internal-combustion engines was announced by Warner Electric Brake & Clutch Co., Beloit, Wis. (A-316)

Miniature Differentials

Miniature differentials for applications where small size and long life are essential were announced by Metron Instrument Co., Denver, Colo. (A-317)

Hangers Stop Vibration

High-deflection heavy-duty vibration hangers were designed by T. R. Finn & Co., Inc., Industrial Div., Hawthorne, N. J. (A-318)

Push-Button Actuators

Designed to be applied to snap-action switches, a new series of push-button actuators was announced by Minneapolis-Honeywell Regulator Co., Micro Switch Div., Freeport, Ill. (A-319)

Boilers With Air Dampers

A secondary air damper has been incorporated in the blower housing of all boilers of 18 to 60 hp. made by National-U. S. Radiator Corp., Oswego, N. Y. (A-320)

Ultrasonic Transducers

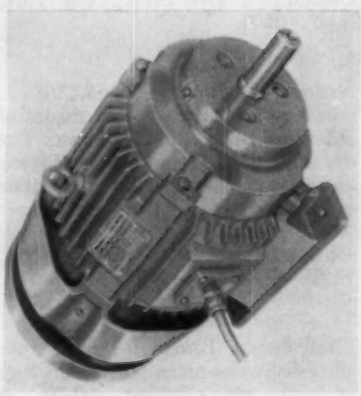
Hermetically sealed ultrasonic power transducers and improved generators were announced by Branson Ultrasonic Co., Stamford, Conn. (A-321)

Boiler-Return System

A packaged unit that will utilize heat energy from high-pressure condensate was introduced by Patterson-Kelley Co., Inc., East Stroudsburg, Pa. (A-322)

Coupling That Slips

A torque-limiting coupling to be used between a motor and a machine was announced by Techniflex Corp., Port Jervis, N. Y. (A-323)



Space-Saving Motor

Electric motors for applications such as opening machines, pickers, cards, and spinning frames were made in the new NEMA design by Reliance Electric & Engineering Co., Cleveland, Ohio. The motors are available in horsepower sizes from 1 through 20. Features include a special finish, smooth contour surfaces to shed lint, and new fan cover and bracket. (A-324)

CONTINUED ON PAGE 218

For more information, circle the A-number on Reader-Service post card.

1 DYES

Pyrazol Fast Brilliant Red RA . . . produces bright red on cellulosic fibers, reserves acetate. The color has good affinity for silk in acidified dyebaths. Sandoz Chemical Co., New York, N. Y. **(B-1)**

National Solantine Blue Green BFL . . . dye produces bluish-green dischargeable shades on cotton and rayon. Very good general fastness. Suggested for carpet yarns, hosiery, upholstery, suiting, and materials to be rubberized. National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. **(B-2)**

Pyrazol Fast Blue FLL . . . produces level, greenish-blue fast-to-light shades on cellulosic fibers. Little or no change in lightfastness occurs in resin finishing. Sandoz Chemical Works, New York, N. Y. **(B-3)**

National Solantine Orange EGL . . . produces moderately bright dischargeable shades of yellow-orange on cotton and rayon. Possesses good general fastness. National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. **(B-4)**

National Solantine Brown 4RLVF . . . produces moderately bright shades of red-brown on cotton and rayon. The dye is useful in the production of rayon and cotton suiting, hosiery, bathing suits, and coloring cotton carpet yarns. National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. **(B-5)**

Cyan Green Toner 15-3100 . . . a phthalocyanine-green toner of high strength and excellent stability to light, acids, and alkalis. American Cynamid Co., New York, N. Y. **(B-6)**

Hiltone Red DCX . . . is characterized by excellent resistance to dry cleaning and washing; produces a clear, yellowish shade of red that has good lightfastness and will withstand plissé and fusing. **Hiltone Red BLC (ITR type)** . . . is a bluer shade of red that is also fast to dry cleaning and laundering. **Hiltone Red G** . . . is fast to perchlorethylene dry cleaning and passes the standard wash test. Hilton-Davis Chemical Co., Cincinnati, Ohio. **(B-7)**

Mercadium Reds . . . are cadmium-mercury sulfide products that produce brilliant shades resistant to heat, sunlight, and alkalis. Imperial Paper & Color Corp., Glens Falls, N. Y. **(B-8)**

Polyester Dyes . . . designed for coloring polyester fibers exhibit generally excellent fastness to most factors affecting dyestuffs. The dyes are applicable by carrier or high-temperature methods. The series includes: **Eastman Polyester Red B, Eastman Polyester Red 2G, Eastman Polyester Blue GR, Eastman Polyester Blue GLF, Eastman Polyester Blue 3 RL, Eastman Polyester Navy G, Eastman Polyester Black RB, Eastman Polyester Yellow 5R,** and **Eastman Polyester Yellow W.** Eastman Chemical Products, Inc., Kingsport, Tenn. **(B-9)**

CPS Dyes . . . controlled particle size is featured in a line of vat dyes that are supplied in a series of pastes and powders in a particle size best suited to each type and its principal applications. American Cyanamid Co., Dyes Dept., Bound Brook, N. J. **(B-10)**

Sandothrene Red Brown N2RF . . . yields shades fast to kier boiling and bleaching. Sandoz Chemical Works, New York, N. Y. **(B-11)**

Leucosol Black G Double Paste . . . suitable for dyeing or printing cotton or rayon; produces blacks of outstanding lightfastness and good fastness to crocking or mark-off. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. **(B-12)**

Indanthrene Dark Brown MR Infra Paste . . . dyes deep reddish-brown shades on cotton and rayon. The color may be used as a self shade or as a component in other brown combinations. Not suitable for awning fabrics. General Dyestuff Co., New York, N. Y. **(B-13)**

National Carbanthrene Direct Black 3G Double Paste . . . produces greenish-black shades on cotton and rayon. The dye exhibits maximum lightfastness and excellent fastness to most wet processing. Application can be by the pigment-pad process, reduced bath, or printing. National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. **(B-14)**

Dispercon . . . vat colors have high tinctorial value and excellent dispersion, wetting-out, and nondusting qualities. Available are **Blue BCL, Red Brown, Orange RRT, Navy Blue BN, Olive Green B, Flavone GC, Dark Blue BO, Olive R,** and **Pink FF.** The colors are especially suited to beam and package dyeing. American Aniline Products, Inc., New York, N. Y. **(B-15)**

Ponsol Gray N . . . produces bluish-gray to black shades on cellulosic fibers. Recommended for piece-goods dyeing, the color exhibits good general fastness. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. **(B-16)**

Lanasyn Blue BRL, Lanasyn Red BL, Lanasyn 2 GL Pat., Lanasyn Brown GL, Lanasyn Orange RL, Lanasyn Yellow 2 GL, Lanasyn Yellow GLN p. a. f., and **Lanasyn Yellow 3 GL Pat.** . . . produce shades of excellent general fastness on wool, silk, and nylon. Sandoz Chemical Works, New York, N. Y. **(B-17)**

Cibalan Black BGL . . . produces dark grays or solid blacks of excellent fastness to light, washing, and milling on wool, polyamide fibers, and mixtures. Ciba Co., Inc., New York, N. Y. **(B-18)**

Sevron Brilliant Red B . . . dyes Orlon Types 39 and 42 bluish-red shades of good general fastness. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. **(B-19)**

Basolan Fast Yellow GCL, Basolan Fast Yellow GRL, Basolan Fast

For more information, circle the B-number on Reader-Service post card.

Orange GL, Basolan Fast Orange RRL, and **Basolan Fast Red GL** . . . are recommended for wool and nylon. They produce shades of good general fastness. Nova Chemical Corp., New York, N. Y. **(B-20)**

Neutrazoics . . . stabilized azoic dyestuffs that develop full shades without acid-ageing and are fast to washing, chlorine, and light. Neutral steam will develop the colors, but acid-agers can be used if desired. Atlantic Chemical Corp., Passaic, N. J. **(B-21)**

National Blue 2BS Salt . . . produces greenish to reddish shades of blue on cotton or rayon with various naphthols. Can be applied by padding, pressure machines, in open tubs, or by printing. Fastness characteristics are very good. National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. **(B-22)**

Rapidogen Black J . . . recommended for printing on wash fabrics. Very good washfastness, generally good fastness to light, perspiration, and drycleaning. General Dyestuff Co., New York, N. Y. **(B-23)**

Diazamine Fast Scarlet 3GWL Pat. . . . provides bright, fast-to-light shades that are dischargeable. Can be used with cotton-acetate mixtures to reserve the acetate and has good general fastness. Sandoz Chemical Works, New York, N. Y. **(B-24)**

Artisil Scarlet GFL Ultradispersed . . . produces brilliant yellowish scarlets on acetate, nylon, and Arnel. Fastness to light, washing, gas fading, and sublimation is excellent. Sandoz Chemical Works, New York, N. Y. **(B-25)**

Artisil Direct Blue Green . . . dyes green and turquoise shades on nylon that are fast to salt water, perspiration, and crocking. Sandoz Chemical Works, New York, N. Y. **(B-26)**

Ortol Yellow F4G, Ortol Scarlet FG, Ortol Blue FG, and **Ortol Green B** . . . designed for shading the Ortolan dyes, possess brilliance and good fastness properties. Nova Chemical Corp., New York, N. Y. **(B-27)**

Procion Dyes . . . in golden-yellow, brilliant-red, and bright-blue shades are applicable to cellulosic fibers, nylon, silk, or wool. The colors are claimed to produce extremely fast shades by modern printing and continuous-dyeing processes. Arnold, Hoffman & Co., Providence, R. I. **(B-28)**

Calcofluor White 4BT . . . recommended as a whitening agent for Acrilan. The product does not require an extra process for application. American Cyanamid Co., Bound Brook, N. J. **(B-29)**

Aniline Salt . . . of improved solubility, free of grit, and with a controlled pH, is said to produce more-uniform blacks by dyeing or printing. American Cyanamid Co., Bound Brook, N. J. **(B-30)**

Vialon Fast Violet 2R . . . produces a reddish-violet shade on nylon, wool, or unions of these fibers. Fastness properties are rated excellent. Nova Chemical Corp., New York, N. Y. **(B-31)**

Naphthol AS-LG . . . produces shades from bright yellow to cordovan on cotton that are fast to chlorine and peroxide. Recommended for package dyeing. Blackman-Uhler Co., Spartanburg, S. C. **(B-32)**

Annual Review of DYES and CHEMICALS

2 *FINISHES*

Genton 110 . . . Zytel 61 nylon resin is used in this product to make a 10% dispersion at pH 6.8 to 7.2. The resin can be used on cotton, rayon, nylon, and other fibers to give improved resistance to oxidation and hydrocarbons. General Dispersions, Inc., Paterson, N. J. **(B-33)**

BC1 Nylon Dispersion . . . Made from Type 8 nylon, this product can be applied to yarns and fabrics by dipping, coating, or spraying where increased abrasion resistance and tensile strength are desirable. Belding-Corticelli Industries, New York, N. Y. **(B-34)**

Monatose . . . a cold-water-soluble starch polymer that can be added to resin formulations to reduce residual shrinkage and improve abrasion resistance. Mona Industries, Inc., Paterson, N. J. **(B-35)**

Rhoplex E-21 . . . produces soft, transparent films useful in softening cellulosic and synthetic fibers, as a backing medium for upholstery, and as a modifier in resin formulations. Rohm & Haas, Philadelphia, Pa. **(B-36)**

Arogum . . . identifies a series of potato starches modified to produce better luster, quicker cooking, and more-flexible coatings for sizing and finishing operations. Morningstar, Nicol, Inc., New York, N. Y. **(B-37)**

Monapolene A . . . an anionic emulsion for softening resin-finished cellulosic fibers; resists yellowing and increases hydrophobicity. Mona Industries, Inc., Paterson, N. J. **(B-38)**

Rhoplex B-15 . . . a nonionic acrylic resin useful in improving physical strength in crease-resistant cottons and as a bonding agent in nonwoven fabrics. Rohm & Haas, Philadelphia, Pa. **(B-39)**

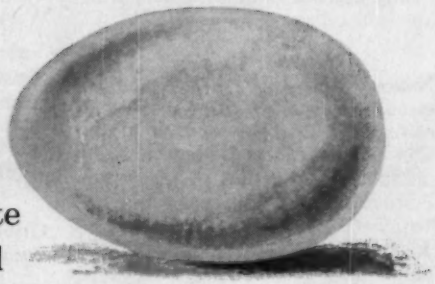
Drusil . . . water-repellent silicone finishes applicable to rayon, Orlon, Dacron, acetate, and wool provide a variety of finishes that are durable to dry cleaning and laundering. E. F. Drew & Co., Boonton, N. J. **(B-40)**

Wicathica . . . a synthetic thickener and stabilizer for water-phase plastic and rubber emulsions that works well over a wide pH range to form stable suspensions of latex, polyvinyl acetate, and acrylic polymers. Wica Chemicals, Inc., Charlotte, N. C. **(B-41)**

Nopco 2221-P . . . produces soft finishes with low scroop and little fiber-to-fiber friction. Nopco Chemical Co., Harrison, N. J. **(B-42)**

For more information, circle the B-number on Reader-Service post card.

Which comes first– the fiber or the use?



One paramount feature of Celanese acetate staple and tow is that they are engineered for your specific needs.

That is the reason for their tremendous range—each length, crimp, denier tailored to distinct end-uses. Each does its job at a competitive price. Each supplies acetate's virtues as you need them—from elegant hand and superb clear color to soft warmth needed in battings.

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in 2, 3, 5.5, 8, 12, 17, 35 and 50 individual deniers.
5/8″ to 8″ length
in Regular Crimp (for woven and knitted goods)
in High Crimp (for blankets and carpets)
in Type F (Celacloud—for non-woven battings)

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in a full range of individual deniers

FLAT FILAMENT ACETATE

(high reflective yarn) available in 35 individual deniers

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Dow Corning T-31 . . . a water-dilutable silicone finish for glass cloth, can be mixed with epoxy, phenolic, polyester, and silicone resins to give a variety of effects with one basic finish. Dow Corning Corp., Midland, Mich. **(B-43)**

Norane Silicone . . . recommended for producing nonoily spot- and stain-resistant finishes on acetate, viscose, nylon, cotton, and wool fabrics. Sun Chemical Corp., Warwick Chemical Co. Div., Long Island City, N. Y. **(B-44)**

Nopco 1525-L . . . a polyoxyethylene ether of an alkylated phenol polymer, this product is suggested for textile softening and for antistatic finishes. Nopco Chemical Co., Harrison, N. J. **(B-45)**

Softex 595 . . . recommended for finishing yarn or fabrics, to which it imparts a soft hand. The product is hygroscopic and is inhibited against mold growth. E. F. Houghton & Co., Philadelphia, Pa. **(B-46)**

Eversan . . . can be applied during bleaching, dyeing, or finishing processes to produce a permanent germ-killing effect for the life of the fabric. Yardney Chemix Corp., New York, N. Y. **(B-47)**

Rubbatex Rubber Fiber Coating . . . is designed particularly for rubberizing felt pads, hair felt, and wadding; can be air- or oven-dried at low temperatures. Rubba, Inc., New York, N. Y. **(B-48)**

Hartoset E . . . low-polymeric resin of the modified-urea type produces shrinkproof and creaseproof finishes on cottons, rayons, acetates and synthetics. The product is compatible with many other finishing materials. Hart Products Corp., New York, N. Y. **(B-49)**

Niatex AG-2 . . . produces static-free finishes resistant to laundering and dry cleaning. Compatible with many other finishes, the product works well on Orlon, Dynel, Acrilan, and other synthetics. Carbide & Carbon Co., New York, N. Y. **(B-50)**

Water-Skipper . . . is an aerosol-type water repellent applied by spraying. A durable hydrophobic coating that has rustproofing and lubricating qualities is deposited on fabrics, leather, or metals. Textile Adjuncts Corp., Brooklyn, N. Y. **(B-51)**

Permel Resin B . . . is an improved product that has easy handling and running qualities. Compatible with many other finishing materials and copper-bearing dye fixatives. American Cyanamid Co., Textile Resin Dept., Bound Brook, N. J. **(B-52)**

Calen-Aid (tex) D-22 . . . a colloidal silicone, wax, and resin finishing agent for producing high-gloss finishes on resinated and embossed fabrics. Can be added directly to resin-finish formulas and used as a softener for noncalendered finishes. Textile Adjuncts Corp., Brooklyn, N. Y. **(B-53)**

Wica Softener T-535, Wica Softener A, and **Wica Softener N** . . . are a series of substantive softeners suitable for cellulosic fabrics. Wica Chemicals, Charlotte, N. C. **(B-54)**

Pliovic AO . . . is an organosol formulation recommended for coating cotton or nylon webbing fabrics such as go into safety belts. High abrasion resistance, flexibility, and light resistance are characteristic of the coating. Goodyear Tire & Rubber Co., Chemical Div., Akron, Ohio. **(B-55)**

Cyanatex SB-100 . . . gives softness and lubricity to cellulosic and synthetic fibers without yellowing and is compatible with anionic and nonionic finishing materials. American Cyanamid Co., Bound Brook, N. J. **(B-56)**

Uversoft D . . . is a substantive softener that produces a full, soft hand on cellulosic or protein materials. It can be used as a satisfactory antistatic agent where the softening effect is acceptable. Harshaw Chemical Co., Cleveland, Ohio. **(B-57)**

Acrysol ASE-60 . . . recommended for adjusting the viscosity of latices of the acrylic type. The thickener may be added to latices or other emulsions as shipped and then thickened after mixing. Rohm & Haas Co., Philadelphia, Pa. **(B-58)**

Melotone . . . defines a series of anionic softeners designed for cotton and synthetic fibers. The products do not yellow or develop odors on ageing. Proctor Chemical Co., Salisbury, N. C. **(B-59)**

Merix Anti-static 79-OL . . . can be added in wrapping operations or included in finishing materials to produce an antistatic finish. The product is neutral and can be mixed with most conventional finishing materials. Merix Chemical Co., Chicago, Ill. **(B-60)**

Wicatex Duller 3192 . . . a 50% cationic dispersion of titanium, is a substantive duller recommended for synthetic fibers and fabrics. Wica Chemicals, Inc., Charlotte, N. C. **(B-61)**

Wicaset EHF . . . a film-forming emulsion that fuses at 250° F. to a tough film resistant to hot oil, boiling water, light, or heat. It may be sprayed, impregnated, or coated on textiles or paper. Wica Chemicals, Inc., Charlotte, N. C. **(B-62)**

Cravaco A. P. S. . . . is a silicone product designed to improve wash-and-wear finishes applied to cotton fabrics. Increased abrasion resistance, increased tensile strength, and more-rapid drying are claimed. Cravenette Co., U. S. A., Hoboken, N. J. **(B-63)**

Celluflex CEF . . . trichlorethyl phosphate added to coating formulas, polyurethane, and polyester foams cuts down flammability. Celanese Corp. of America, Chemical Div., New York, N. Y. **(B-64)**

Hydro-Pruf AB . . . a silicone-base product developed especially for making wool water repellent. The product produces effective water repellency at curing temperatures in the range of 250 to 260° F. Arkansas Co., Newark, N. J. **(B-65)**

Wica Softener Apt . . . an amphoteric compound that works well with resin finishes over a wide pH range and resists laundering, dry cleaning, chlorine bleaching, and yellowing at high temperatures. It is compatible with many other finishes. Wica Chemicals, Inc., Charlotte, N. C. **(B-66)**

Seagull Ultramarines . . . ranging in shade from brilliant blues to delicate violets. Recommended for bluing or tinting where extreme lightfastness is wanted. Distributors are Whittaker, Clark, & Daniels, Inc., New York, N. Y. **(B-67)**

Unibac . . . is a series of copolymers designed for application to furniture fabric and carpetings. The products do

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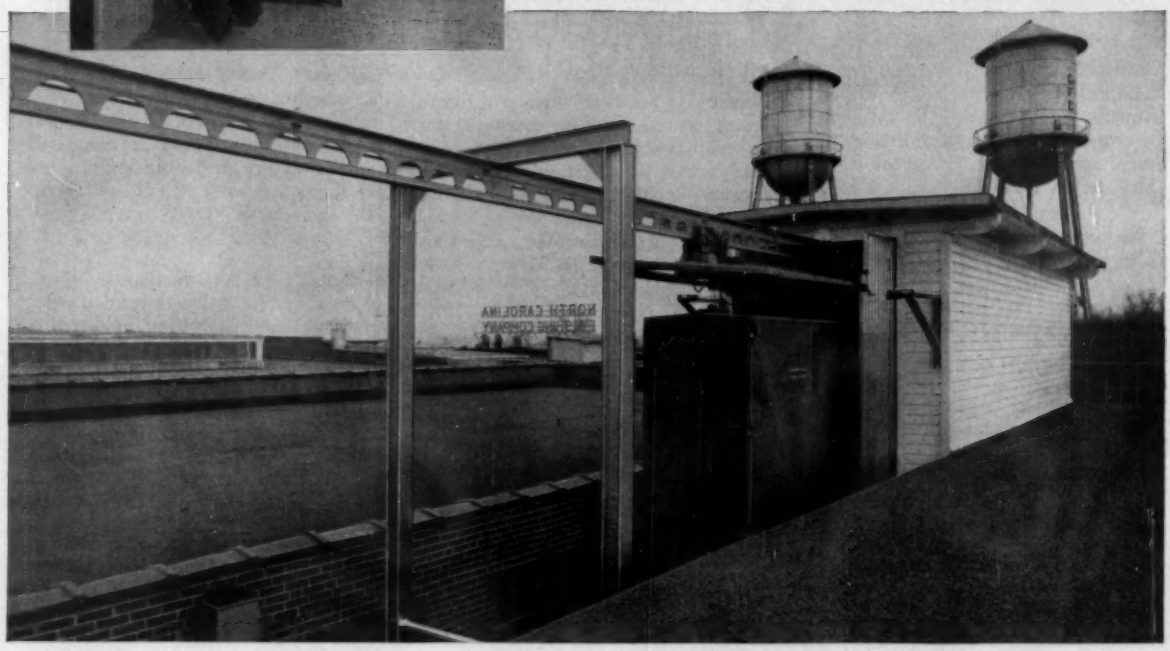
Uses Skyway For Handling Materials AUTOMATICALLY

Completely Pays for Itself Every Three Years

◀ Loading a van on the second floor of a building. This same van also may be lowered to the floor below for loading. Although the building at this end of the system is quite old, the Cleveland Tramrail equipment was easily installed.

For years this vast roof area did nothing more than provide protection from the weather. Now it is being used profitably for materials handling. Illustrated is the van emerging from the penthouse. ▼



BY erecting a Cleveland Tramrail materials handling system over the roofs of its buildings, a large plant is able to transport materials between departments located in widely separated buildings at very low cost.

Because the system operates automatically, the Tramrail carrier travels back and forth without any operator. The carrier van is loaded or unloaded at convenient areas inside the buildings. Pressing a button sends it on its way. It rises vertically to a penthouse on the roof. Then it makes its run over the track system to the penthouse at the other end. Here it lowers to the floor inside for loading or unloading.

The system eliminates considerable floor traffic and saves space required for wide aisleways. It operates at any time, day or night. Inclement weather does not hinder it. The system requires only a fraction of the maintenance necessary for floor handling equipment. It does not wear or damage floors. It is a big aid to safety. In addition to these important benefits, the Cleveland Tramrail system makes tremendous time savings — enough to completely pay for the entire installation every three years.

Cleveland Tramrail has had wide experience in automatic dispatch materials handling systems of many types. Our engineers will welcome an opportunity to work with you.

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Overhead Materials Handling Equipment

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not require vulcanization. Fabrics treated with this series of copolymers exhibit good binding and increased tensile strength. UBS Chemical Corp., Cambridge, Mass. (B-68)

Scotchgard . . . makes fabrics resistant to both water- and oil-borne stains. The product can be applied on conventional equipment and requires one or two additional finishing steps, depending on the method used. Minnesota Mining & Mfg. Co., St. Paul, Minn. (B-69)

Protolube PE . . . an emulsified polyethylene designed to be added to thermosetting-resin finishes, imparts improved crease resistance, abrasion resistance, and tear strength. Proctor Chemical Co., Inc., Salisbury, N. C. (B-70)

Aston LT . . . provides a durable antistatic finish to fabrics made of hydrophobic fibers. The product, a resin, is very resistant to washing or dry cleaning and is claimed to be effective for the life of the garment. Onyx Oil & Chemical Co., Jersey City, N. J. (B-71)

MDMH . . . monomethylol dimethyl hydantoin is offered as an odorless formaldehyde donor in the modifying of textiles. The available formaldehyde is 19%. Glyco Products Co., Inc., Empire State Bldg., New York, N. Y. (B-72)

Wicatex Duller 3140 . . . a 25% anionic product, is recommended for inclusion in regular finishing mixtures. Wica Chemicals, Inc., Charlotte, N. C. (B-73)

Kylan . . . an extract of shrimp shells, produces dimensional stability in woolen fabrics treated to contain 3% of the product. Shrinkages as low as 5% after 12 launderings can be obtained. Moretex Chemical Products, Inc., Spartanburg, S. C. (B-74)

Mildewproofer . . . a copper compound applied to cellulosic fibers prevents bacterial damage to a high degree. A stable cellulose-copper compound is formed when the product is applied from water solutions. National Cylinder Gas Co., Chicago, Ill. (B-75)

Annual Review of DYES and CHEMICALS

3 AUXILIARIES

Arcco C 518 . . . binds polyurethane foams to textiles. The product is supplied in brush viscosity but may be thinned for spraying. Borden Co., Resinous-Reslac Dept., Peabody, Mass. (B-76)

Unishade . . . was developed as a scouring and leveling agent for dyeing nylon hosiery. The product aids in good leg-welt unions and can be used to partially strip down over-dyed shades with very level effects. Kali Mfg. Co., Philadelphia, Pa. (B-77)

Carobene . . . produces noncoagulating print pastes with Rapidogen colors. Buschman Products, Inc., New York, N. Y. (B-78)

DO-K-5 . . . is a stabilized diluent that can be added to Karl Fisher reagent to extend its usefulness. Shelf life is excellent. Fisher Scientific Co., Pittsburgh, Pa. (B-79)

PCB Rock Salt . . . produces brines that contain less than 200 ppm. calcium, which is kept from precipitation by special treatment. Morton Salt Co., Chicago, Ill. (B-80)

Dispersion 108 . . . is a dispersion of Vistanex, suitable as a modifier of gums, starches, and latex emulsions. Miller-Stephenson Chemical Co., Inc., New York, N. Y. (B-81)

DW-300 . . . a high-sudsing product particulary useful in scouring where a good oil emulsifier is necessary. Neutral in pH. Industrial Detergents Div., Lever Bros. Co., New York, N. Y. (B-82)

Tergitol XD . . . is a low-foaming detergent of excellent emulsifying power. The product is a 100%-active polyalkalene glycol ether. Union Carbide & Carbon Corp., New York, N. Y. (B-83)

Dytol J-68 . . . approximately 80% lauryl alcohol; recommended for making antifoaming and emulsifying agents, detergents, softeners, and other textile specialties; 95% **Lauryl Alcohol** is a more concentrated form of lauryl alcohol and can be used for similar purposes. Rohm & Haas Co., Philadelphia, Pa. (B-84)

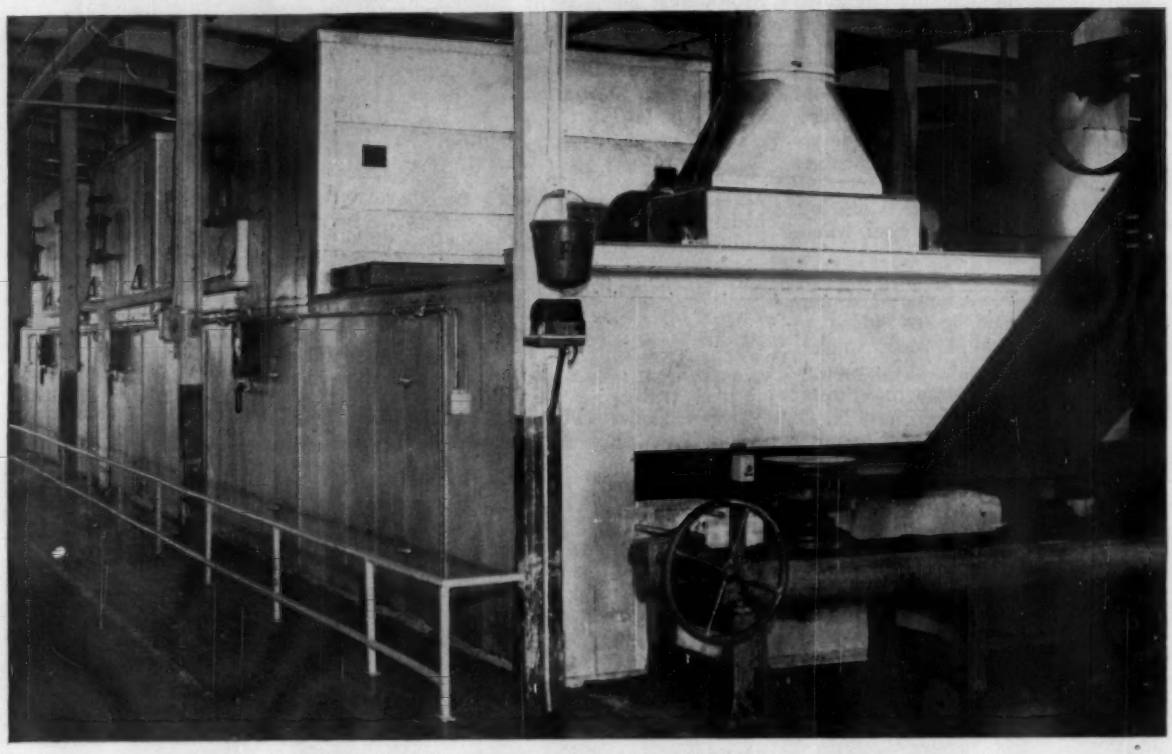
Synthrapol KB . . . will withstand most acid or alkaline conditions found in textile processing. Recommended for kier boiling, naphthol dyeing, desizing. Will not precipitate basic dyes. Arnold, Hoffman & Co., Inc., Providence, R. I. (B-85)

Spot-Out . . . a pressure-spray spot remover for use on synthetic-pile fabrics. Will remove oily stains. Suggested for manufacturers or home use. Kandu Chemicals, New York, N. Y. (B-86)

Conoil . . . suggested for all yarns, is especially effective for stretch yarns. **Lastique** . . . may be used as supplied or as an emulsion with 4 to 10 parts water. **Lanacone** . . . imparts excellent lubricity and machine-part protection. **Silacone** . . . is a stable emulsion that deposits a film with the lubricating power and stability of the silicones. Can be completely removed by scouring. The oils are antistatic and will not oxidize or form acids; they combine maximum lubrication with ease of removal. Reading Testing Laboratories, Reading, Pa. (B-87)

Poly-Coupler . . . a resin copolymer to be added to urea- or melamine-formaldehyde resins that prevents formation of amine compounds that develop

in new tenter dryer at Cone Mills' Granite Plant...



High quality fabrics up to 50 inches wide are carried through this new steam heated tenter dryer.* The entire dryer housing is fabricated from Armco ALUMINIZED STEEL Type 2.

Armco ALUMINIZED STEEL gives protection without paint

For their new tenter dryer, engineers at Cone Mills'—Granite Plant, at Haw River, North Carolina, wanted a housing that was fully protected against corrosion—*yet would require no painting.*

They specified Armco ALUMINIZED STEEL® Type 2.

There are good reasons. Here, for example, is what 17 years of testing in an industrial atmosphere show about this special Armco Steel that's hot-dip coated with aluminum by a special process:

When it's exposed to the atmosphere, the life of the aluminum coating on ALUMINIZED STEEL Type 2 is at least three times that of a standard zinc coating on galvanized steel sheets.

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Benefits of ALUMINIZED STEEL Type 2 go beyond protection against corrosion. Structural strength of steel and the attractive, heat-reflecting surface also provide construction economies and heat savings for textile mills.

Tenter dryers are only one of the many kinds of textile drying units now housed in Armco ALUMINIZED STEEL. If you're planning to install new drying equipment, it will pay you to specify this special steel. Write us. We'll put you in touch with fabricators who use Armco ALUMINIZED STEEL.

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odors. Compatible with all resins and fibers. Textile Adjuncts Corp., Brooklyn, N. Y. (B-88)

Witco 77-86 . . . an emulsifier-coupler for polyurethane foams that leaves the products free from odor. Applicable to auto mats, upholstery, carpets, and wearing apparel. Witco Chemical Co., New York, N. Y. (B-89)

Pluronics . . . a series of dye-leveling agents effective on all fibers. Compatible with textile-processing materials throughout the entire pH range, these products do not combine with calcium and magnesium salts and have excellent detergent qualities. Foaming characteristics range from very low to moderate. Wyandotte Chemical Corp., Wyandotte, Mich. (B-90)

Spectranalyzed Reagents . . . offered as ultra-pure chemicals for spectrophotometric work. Acetone, carbon tetrachloride, chloroform, cyclohexane, methyl alcohol, methylene chloride, and isopropyl alcohol are available. Fisher Scientific Co., Pittsburgh, Pa. (B-91)

Decomine . . . a dyeing assistant for Acrilan-wool blends, helps produce dyeings of excellent uniformity and color value. Decomine is neutral in reaction and will withstand boiling in the presence of sulfuric acid at all working concentrations. Arkansas Co., Newark, N. J. (B-92)

Ke-tone . . . will gradually remove deposited scale from boilers and pipes. Algae growth is inhibited in recirculating systems when the product is present. United Chemical Corp. of New Mexico, Hobbs, N. M. (B-93)

Scourpen 1341 . . . anionic surfactant is effective at pH 3 to 12. Recommended for soaping off vats and naphthols. Richmond Oil, Soap & Chemical Co., Philadelphia, Pa. (B-94)

Isomal 265 . . . is useful in wetting, rewetting, and penetrating in scouring and dyeing operations. Chemical Div., Johnson-March Co., Philadelphia, Pa. (B-95)

Nopco GS-10 . . . suggested as an internal plasticizer in thermosetting resins, as a humectant, and as a softener for cellulose. Nopco Chemical Co., Harrison, N. J. (B-96)

Atco Chlorite . . . is free-flowing and contains an inhibitor that reduces corrosion of stainless steel. A supplementary product, **Bleaching Auxiliary HV,** is offered to use with sodium chlorite to reduce fuming. Metro-Atlantic, Inc., Greenville, S. C. (B-97)

Nopcoset B . . . an anionic polyvinyl-acetate emulsion. Suggested as a binder in nonwoven fabrics. Nopco Chemical Co., Harrison, N. J. (B-98)

Emersol 213 . . . light-colored single-distilled oleic acid of low titer suitable for adjusting sulfonated oils. Emery Industries, Inc., Cincinnati, Ohio. (B-99)

Barisol BRM . . . prevents formation of scum and dirt in saturators of continuous peroxide-bleaching ranges and reduces build-up of silicate deposits. Dexter Chemical Co., New York, N. Y. (B-100)

Nekal BXW Pat. . . . is an alkyl aryl sulfonate detergent designed for wetting, foaming, and dispersing properties. Badische Anilin & Soda Fabriken AG., Ludvigshafen, Germany. (B-101)

Dispersinol C . . . an anionic material recommended for union dyeing of Dacron-wool blends or other combinations of synthetic and natural fibers. Solutions have a pH of 5.8 to 6.0. Arkansas Co., Newark, N. J. (B-102)

Foamwilt . . . cuts down the problem of excessive foaming of effluents discharged into sewage systems. The product kills foam and inhibits its formation. Fine Organics, Inc., New York, N. Y. (B-103)

Nalco 71-K . . . is a water-base liquid that is highly effective in eliminating foam and entrapped air from processing solutions. Aluminate Corp., Chicago, Ill. (B-104)

Emkasene . . . is recommended as a sequestering agent for hard water and trace-metal ions. The product is effective over a wide pH range. Emkay Chemical Co., Elizabeth, N. J. (B-105)

Chemnyle . . . is the generic term for a dyebath assistant said to overcome earlier difficulties of applying acid and direct dyes to nylon. The product permits the use of dyes that give good washfastness and lightfastness. Chemstrand Corp., Decatur, Ala. (B-106)

Perma Kleer 80 Crystals . . . form stable chelates with all divalent metal ions and most trivalent metal ions. Ferric ions are chelated in acid and neutral media. Refined Products Corp., Lyndhurst, N. J. (B-107)

Perma Fix-45 . . . reduces bleeding and crocking of colors and increases fastness to washing and perspiration. Compatible with resins and cationic softeners. Refined Products Corp., Lyndhurst, N. J. (B-108)

Tanavol . . . provides a one-step process for dyeing Dacron. The product is claimed to eliminate spotting and to stand up for the life of the dyebath. Tanatex Corp., Kearny, N. J. (B-109)

Arko Buffer N . . . reduces objectionable fumes and retards corrosion in stainless-steel vessels when it is added to sodium-chlorite bleaching baths. Arkansas Co., Newark, N. J. (B-110)

Dextrol Scour 50-17 . . . for scouring nylon and acetate tricot fabric; particularly suitable for pressure-dyeing machines. Dexter Chemical Co., New York, N. Y. (B-111)

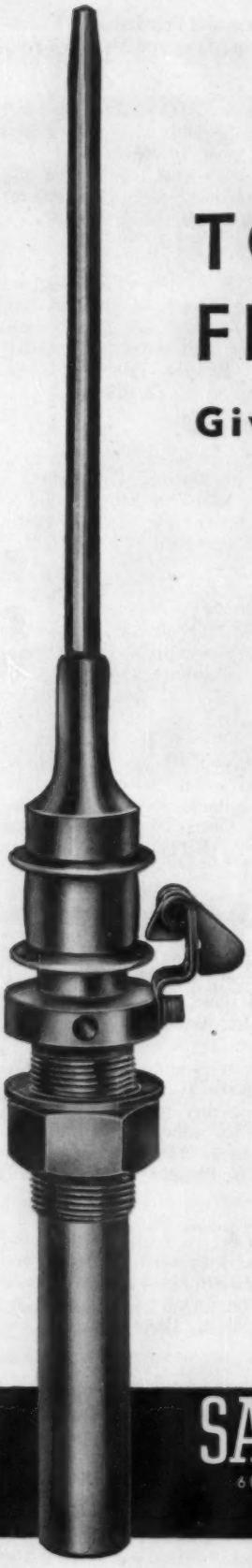
Pliolite Latex . . . binds inorganic pigments to paper leno fabrics, produces superior wet strength, reduced rub-off, and improved light-ageing of color. Chemical Div., Goodyear Tire & Rubber Co., Akron, Ohio. (B-112)

Acrysol ASE-75 . . . a high-solids acrylic thickener recommended as a thickener for adhesives, fabric backings, and many other purposes. Rohm & Haas Co., Philadelphia, Pa. (B-113)

Antifoam B . . . a silicone derivative dispersible in aqueous solutions; effective in concentrations of 3 to 30 parts per million. Dow Corning Corp., Midland, Mich. (B-114)

Lyogen DK . . . levels the varying rate of strike of different dyestuffs in a bath. The product has no substantivity for cellulose fibers and will not interfere with subsequent processing. Sandoz Chemical Works, New York, N. Y. (B-115)

For more information, circle the B-number on Reader-Service post card.



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Give these proven advantages...

1. The top suspension drive produces a smoother running assembly because of the perfect balance of the moving parts.
2. There is a definite improvement in yarn quality as a result of uniform tension at all stages of the doff.
3. Higher spindle speeds and consequently more production are inherent advantages of the top suspension drive since all forces acting on the bobbin are in a high degree of balance.
4. There is an increase in the package content varying from 2½% to 7½% due to the tighter wind resulting from more uniform tension.
5. Anti-Friction roller bearings last longer and require less oil.
6. Savings in power consumption due to smoother operation.
7. Savings in labor costs as a result of longer lubrication cycles.
8. The absence of oil creepage increases the life of the tape and reduces to a noticeable extent the spoilage of yarn due to oil stains.

Now is the time to better your operations by replacing your obsolete filling spindles with this new Saco-Lowell unit. Under ordinary conditions the advantages accruing from the increase in production, the improvement in quality, and the overall efficiency of the spinning frame, will surely repay the entire capital investment.

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POINTERS for SUPERVISORS

The Supervisor's Role In Community Relations

- What a supervisor says and does off the job has an influence on the community's opinion of his company, and that opinion has an impact on his own job.
- Here's a look at the supervisor's important part in maintaining a friendly community attitude and what he has to gain from it.

By **M. A. CROSS,** Director of Industrial Relations, Dan River Mills, Inc.

Along with all his other duties, the supervisor has a responsibility for working to improve his company's community relations. Stated another way, he has an obligation to work to improve the opinion of his company held by the people of the community in which the company is located.

A supervisor may not give much conscious thought to his responsibility in this area because of the more-pressing problems that confront him on the job. He may not feel that the attitude of the community towards his company is important, or he may believe that the responsibility for good community relations lies exclusively with top management and the public-relations department. He may feel, too, that what he does off the job is his own business and that in any event, what he does off the job has no impact whatever on the company.

Let's take just a moment to examine why good community relations are important and why the supervisor has a vital role in this area, although he may never make a speech before one of the local civic clubs.

A friendly community attitude towards the company helps to attract and recruit promising young people, helps to keep labor turnover down, helps to generate a more-loyal work force, helps to minimize labor difficulties, and helps to promote a more-understanding viewpoint on the part of local government. There are other benefits as well, but these should serve to indicate that good community relations are definitely in the company's interest.

Where the Supervisor Comes in

Why is the supervisor important? Let me quote the words of George Hammond, president of Carl Byoir and Associates, Inc., in a talk he made to the National Management Association:

"The supervisor works in a particularly sensitive and responsive area. Not only is he in constant contact with the rank-and-file workers under him, but he also talks to management, to customers, to suppliers—even to the public.

"In addition, the supervisor has a high believability quotient. It is generally felt that not only does he have inside information about his company, but he has no reason to pull his punches when he tells what he knows."

And Mr. Hammond adds: "Nothing influences members of the community more strongly than the comments they hear from supervisors. The positive effort put forth by the manufacturing, sales, and public-relations departments to create public confidence in any company venture can easily be offset by the critical or antagonistic comments of supervisors far from the executive suite."

Emphasized in the above quotation is that what a supervisor says can have an important influence, good or bad, on public confidence in the company's plans and activities. The same can be said of what the supervisor does. Since the supervisor's role is vital in the influence it brings to bear on community attitudes, what are some things he can do to make his role a constructive force for the company's long-term benefit?

1. Maintain Good Employee Relations

Employees, just like supervisors, go among the public. They talk to their friends and relatives about their jobs, about the kind of boss they have, and the type of treatment they receive.

If they work in a department where the relations with the supervisor are harmonious, where their interests are given proper consideration, where their problems receive prompt attention, and where they can have respect and confidence in the judgment and fairness of their supervisor, their comments in public will reflect that experience and their comments will be favorable to the company.

On the other hand, if they feel they are mistreated and not given a fair shake, a lot of pious statements in company news releases about generous employment policies will fail to overcome the contrary impressions left by employees

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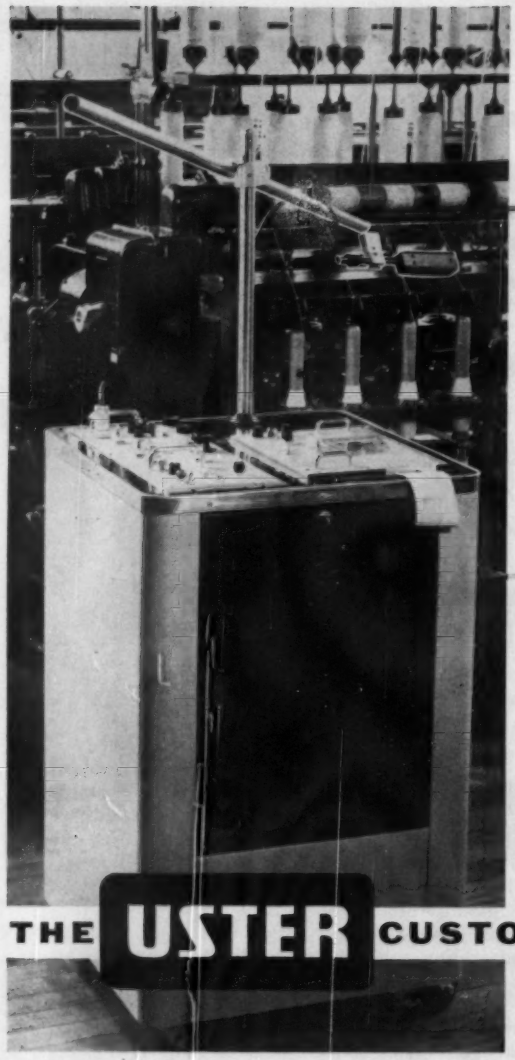

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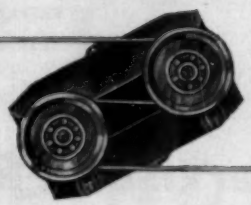

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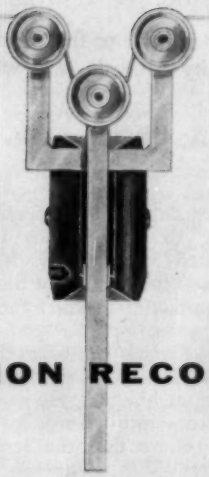

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The Uster Custom Tension Recordograph (a development of the Celanese Corporation of America) offers you extreme accuracy and versatility in middle and final stages where tension control is critical.

From roving guide bar to shuttle and loom beam, the Uster Custom Tension Recordograph pays its way . . . in weight count of yarn, in solid spinning packages, spooling processes, in effective section and warp beams, shuttle tension with nylon loops (if you use fur, fur savings will pay for the instrument) and in consistent cloth face.

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CONTINUOUS QUALITY CONTROL IN MANUFACTURING

CONTINUED FROM PAGE 149

who are speaking out of their own knowledge and experience.

Good employee relations are compounded of a lot of things. They do not come easily and without diligent effort on the part of the supervisor. But they are essential, not only to effective performance within the department but also to public confidence in the enterprise.

2. Display a High Standard of Conduct

In writing about what it takes to be a manager, John M. Fox, president of Minute Maid Corporation, had this to say about character: "Managers must be men of high integrity. The honesty, sincerity, and moral posture of a top executive must be unquestionable. This is a common quality of all real leaders . . . on this quality there can be no compromise."

The same thing is true of supervisors and of others in positions of leadership who necessarily set an example of conduct, good or bad.

A great writer once said substantially these words: "I cannot hear what you say, because what you do speaks so much louder." A high standard of conduct, on and off the job, will contribute to the supervisor's influence in creating public confidence in the organization he represents. Men of character are respected, and that respect will be carried over to the enterprise of which they are considered to be a responsible part.

3. Display Your Confidence

An essential ingredient of good community opinion is confidence—in the objectives of the company, in the way it reaches its objectives, and in the men in responsible positions who control its operations.

As already indicated, people expect a supervisor, because of his association with management, to have knowledge of the company's major plans and ventures. If the supervisor displays a lack of confidence in these plans, is critical of the goals and the actions to achieve them, his attitude will be communicated to the public with which he comes in contact. Their confidence will be lessened; their opinion will become less favorable. Doubts will be raised that will eat away at the respect in which the company is held.

On the other hand, quoting Mr. Hammond again, "When supervisors exude a spirit of confidence in any company venture, a sense of the successful destiny of the whole program takes hold."

4. Correct Misinformation

Grapevines operate in communities, just as they do in plants and companies. Rumor spreads fast; and rumor persistently repeated tends to be accepted as fact, no matter how far off the mark it may be. Being human, we tend to thrive more on rumor that is critical of people or of institutions and to pass it on more quickly.

Not all rumors are untrue; but when the information circulating through the grapevine is incorrect or misleading, supervisors have an opportunity to check it and set the record straight. If it is necessary to go to management to find out the facts or to determine the basis for a rumor, this action should be taken rather than permit the incorrect information to spread unchecked.

It is a mistake to stand idly by while the company's reputation is being damaged by misinformation. Here again is an instance where the supervisor can be an influence for good in the community attitude toward his company.

A company's favorable community relations, the respect and confidence in which a company is held by the public, is built slowly. It must be worked at to be maintained, and it can be lost quickly. Supervisors have an opportunity, and beyond that a responsibility, to exercise their positive influence in building and maintaining the company's good community relations.

JAPANESE TEXTILE INDUSTRY

CONTINUED FROM PAGE 110

Textile exports, which represented a large percentage of Japan's total exports in 1955, must be increased substantially, or the present boom is doomed. No stone will be left unturned in this direction.

3. Domestic consumption. Per-capita consumption of textiles must be increased drastically to help take up the slack. Great progress has been made since 1950, but more consumption is necessary.

Per-capita consumption of all kinds of textiles increased from 3.75 lbs. in 1950 to 11.98 lbs. in 1954. World figures for these two years are 8.41 lbs. and 9.32 lbs., respectively.

Other problems. Japan is harried with many other problems, such as the high cost of cotton, shortage of raw materials, lack of technical knowledge in some fields, and uncertain world conditions.

But come what may, Japan is in the textile business to stay.

LOOPER POINTS

CONTINUED FROM PAGE 99

end of the week. Use a long, narrow paint brush.

3. On the last working day of each week, clean the points with Quick and lubricate the points with a good machine lubricant such as Humdinger needle polisher and preserver.

4. Fasten the guard over the points securely to protect them from being bumped accidentally.

5. Straighten points that may be pulled out of line. If straightening is more than a minor adjustment, the fixer should be called in to make the repairs.

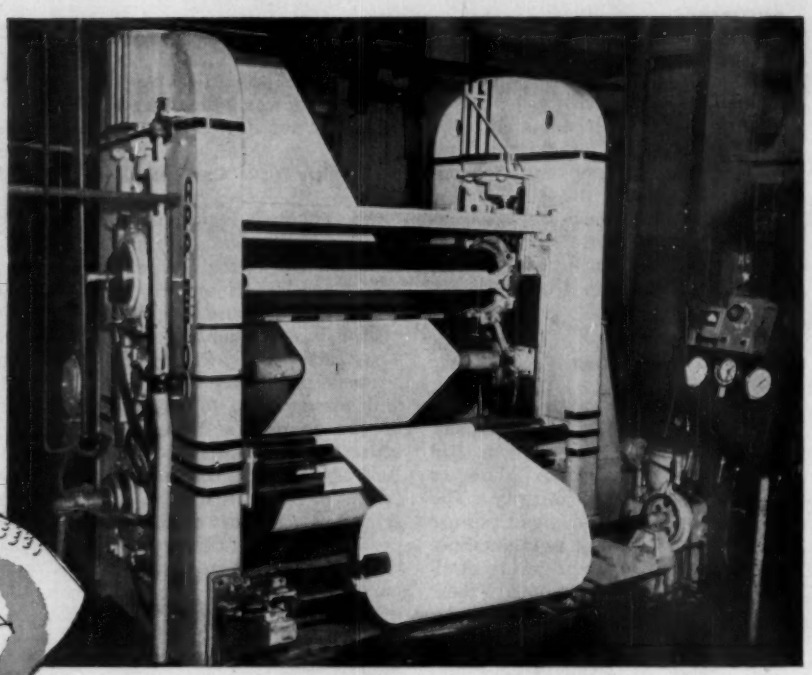
6. Use a nonalkaline hand cream; and if perspiration has a high-acid content, wear the chamois sleeve.

Like any other machine, proper maintenance will prolong the life of Sotco loopers. The machine will wear, the points will become rough and sharp through repeated shinings, and the brass that holds the points will wear down to where it will not hold the points firmly.

When this happens, the dial should be returned to the machine builder for repointing. Under normal use, the dial will last about five years. When trainees are using these machines, the dial rings will need repointing in three years.

Both the fixer and the looper operator have clear-cut responsibilities for keeping the machinery in top condition. Proper maintenance will pay off in more and better hosiery.

Choose your Champion

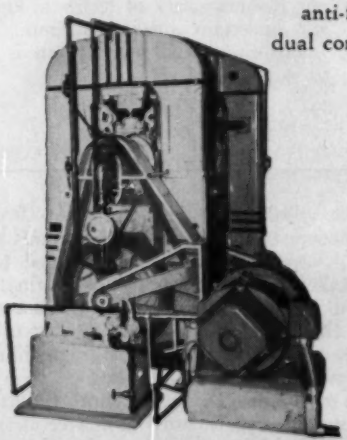


Here is an 80 Ton Appleton 3 Roll Calender in operation

...in Any weight division

The Appleton 3 Roll Hydraulic Friction Calender —available in 40 to 120 Ton models—takes difficult jobs in easy stride, performs dependably day after day, combines speed with consistent quality. Illustrated is the 80 Ton model. Its specialty— Everglaze Glazed finishes.

Long life features include all rolls mounted in anti-friction bearings with force feed oil lubrication . . . dual control pressure system . . . cooling cylinder . . . 40 h.p. Reliance V.S. drive.



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CUSTOM-BUILDERS OF TEXTILE CALENDERS • CALENDER ROLLS OF ALL KINDS

CONTINUED FROM PAGE 133

Electric Drum Heater

A heating jacket that can be snapped on any standard 5-gal. drum was offered by Pre-Fab Heater Co., Inc., Guilford, Conn. The heaters produce up to 140° F. at drum surface. (A-325)

Lift Truck

A redesigned lift truck that straddles the carried load was offered by Clark Equipment Co., Ross Carrier Div., Benton Harbor, Mich. Rated capacity is 10,000 lbs. (A-326)

Fluorescent Lamp

A fluorescent lamp available with a variety of brackets that can be clamped or mounted to any flat surface was introduced by Luxo Lamp Corp., Tuckahoe, N. Y. (A-327)

Explosionproof Housing

An explosionproof housing for its pyrometers was announced by West Instrument Corp., Chicago, Ill. (A-328)

Metal-Armoring Process

A process for coating metal-bearing and cutting surfaces was announced by Fort Worth Steel & Machinery Co., Fort Worth, Tex. Called Armoloy, the process will increase the life of machine and cutting tools. (A-329)

Coil Lifters

A line of coil lifters, made by Lewis-Shepard Products, Inc., Watertown, Mass., has either a manual-hydraulic lift or an electro-hydraulic lift. The lifters handle coils weighing up to 4,000 lbs. with diameters to 48 ins. (A-330)

Thermocouple Assembly

A thermocouple assembly with patented positive pressure seal for greater safety was introduced by Conax Corp., Buffalo, N. Y. (A-331)

Stainless-Steel Faucet

A fumetight faucet that can be used to dispense volatile and flammable solvents was offered by Economy Faucet Co., Newark, N. J. (A-332)

High-Strength Steel Bar

A high-strength steel bar was produced by LaSalle Steel Co., Hammond, Ind. It has properties usually associated only with heat-treated steels and yet is easily machined. (A-333)

Seatless Blow-Off Valve

A seatless blow-off valve for boiler blow lines was made by Yarnall-Waring Co., Philadelphia, Pa. This valve has no seat to score, wear, clog, or leak and is engineered to prevent water hammer. (A-334)

Teflon-Based Pipe Dope

Teflon-based pipe dope for corrosive liquids was offered by Eco Engineering Co., Newark, N. J. (A-335)

Electric Truck

An electric truck was announced by Lewis-Shepard Products, Inc., Watertown, Mass., for handling tin-plate pallets and skid platforms. It is made in capacities of 4,000 and 6,000 lbs. (A-336)

Pipe Strainers

Strainers to be mounted in oil, air, gas, steam, or water lines were announced by Armstrong Machine Works, Three Rivers, Mich. (A-337)

Refrigeration Machine

Refrigerating units that use steam to produce chilled water are now built in 100- to 700-ton capacity by Carrier Corp., Syracuse, N. Y. (A-338)

Evaporative Condensers

A line of evaporative condensers and cooling towers was announced by Baltimore Aircoil Co., Inc., Baltimore, Md. Condensers in sizes up to 350 tons and towers up to 400 tons are available. (A-339)

Rigid Plastic Pipe

Polyvinyl-chloride pipe in rigid form was announced by Joseph T. Ryerson & Son, Inc., Chicago, Ill. The pipe is valuable in transmission of chlorine gas and is resistant to most chemicals. (A-340)

Lightweight Wheels

Aluminum alloy rubber-tired wheels for trucks and trailers were offered in 4- to 12-in. dia. by Nutting Truck Caster Co., Faribault, Minn. Capacities range to 800 lbs. (A-341)

Power-Driven Conveyors

Loading, unloading, and stacking are made easier with a variable-pitch conveyor marketed by Rapids-Standard Co., Grand Rapids, Mich. (A-342)

Welding Gun

A welding gun was produced by Nelson Stud Welding Div., Gregory Industries, Lorain, Ohio. A-343)

Alnico Magnets

A line of nonelectric alnico magnets for removing tramp iron from moving material was announced by Ding Magnetic Separator Co., Milwaukee, Wis. (A-344)

Liquid Chiller

A direct-expansion liquid chiller was announced by Acme Industries, Inc., Jackson, Mich. (A-345)

Remote Room Conditioner

A line of Acme Flo-Temp remote room conditioners was announced by Acme Industries, Inc., Jackson, Mich. (A-346)

Hose Reel

A dual hose reel was designed by Clifford B. Hannay & Son, Inc., Westerlo, N. Y., to handle two fluids, or a fluid and a gas, through one reel. (A-347)

Magnetic Grates

Newly designed magnetic separators in the form of grates were announced by Eriez Mfg. Co., Erie, Pa. The separators consist of magnets mounted in steel tubes. (A-348)

Automatic Lubricator

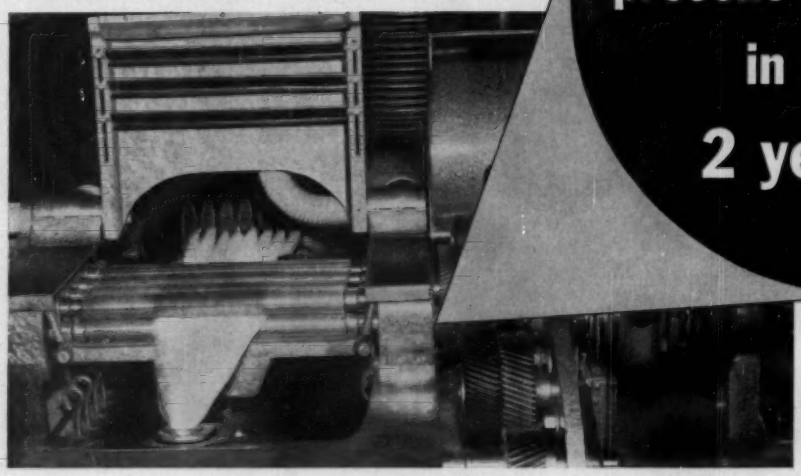
An automatic lubricator for its Monoflo rotating cable conveyor was made available by M-H Standard Co., Jersey City, N. J. (A-349)

CONTINUED ON PAGE 155

For more information, circle the A-number on Reader-Service post card.

Ideal Feathertouch DRAFTING

surpassed other present day standards in drawing 2 years ago



An advertisement for a new competitive drawing frame says "Surpassing all present day standards of drawing". Let's examine some of its claims . . .

CLAIM: "Mills report production doubled or tripled."

FACT: Over other present day standards? Nonsense. No other frame has yet equalled production records made years ago by Ideal Feathertouch Drafting.*

CLAIM: "sliver quality reaching levels formerly unattainable."

FACT: No other drawing equipment has yet consistently produced sliver superior in strength and evenness to that which Ideal Feathertouch Drafting has been producing for years.

CLAIM: "From 250-300 ft. per minute — front roll delivery."

FACT: Ideal Feathertouch Drafting has produced highest quality drawing sliver at smooth, quiet, uninterrupted speeds up to 450 feet a minute, with sustained production at 300 ft. and above.

CLAIM: "For all fibres up to 3" — the first universal drawing frame — for cottons, synthetics, and blends."

FACT: Ideal Feathertouch Drafting has handled up to 4" staple and has also been blending long synthetic staple with shorter combed cotton without shearing or "cockling".

CLAIM: "Outstanding Sliver Quality — 6 or 8 ends up."

FACT: For many years, Ideal Feathertouch Drafting has been producing highest quality sliver 6, 8, or 10 ends up can creel, and direct lap drawing 16 to 20 ends up. Perfect for preparation for combing, as well as for breaker and finisher after combing.

CLAIM: "Pneumafil clearer units — a brand new way of removing waste."

FACT: Ideal's new frames incorporate Bahnson pneumatic clearers.

CLAIM: "All standards of drawing have been completely surpassed — costs slashed to new lows."

FACT: Fiddlebosh! Ideal revolutionized the drawing process in 1949 and has added valuable new features since then. Even some of the oldest Ideal Drafting is faster and more efficient, and is producing higher quality sliver than new competitive equipment. And no other drawing equipment has the Feathertouch.

Now, as in years past, Ideal Feathertouch Drafting is your best buy — as change-overs or on new frames. Let an Ideal sales engineer give you the complete story.

Ideal Industries, Inc.
Bessemer City, N.C.

* Patented

CONTINUED FROM PAGE 153

Armored Glass Pipe

Pyrex glass pipe, fitted with a polyester-impregnated Fiberglas coating, was announced by Corning Glass Works, Corning, N. Y. The ⅛-in. coating protects the pipe in case of breakage. (A-350)

Air-Driven Pump

Vanton Pump & Equipment Corp., Hillside, N. J., announced a pump driven by an air motor. The pump is particularly useful where there is a fire hazard involved in pumping liquids or slurries. (A-351)

All-Purpose Hose

A hose that can handle air, oil, water, and mild chemicals was announced by Manhattan Rubber Div., Raybestos-Manhattan, Inc., Passaic, N. J. (A-352)

Concrete Roof Deck

A roof-decking material, said to have great fire-resisting qualities, was announced by Perlite Institute, New York, N. Y. The resulting roof is very light in weight and is bonded by major roofers for 20 years. (A-353)

Plastic Filter Pumps

All-plastic self-priming filter pumps for corrosive materials were announced by Sethco Mfg. Co., Brooklyn, N. Y. (A-354)

Tubular Filter

A vertical filter for water or chemicals was announced by Industrial Filter & Pump Mfg. Co., Chicago, Ill. (A-355)

Pump for Chemicals

A close-coupled portable electric motor and pump unit with dry-suction lift of approximately 15 ft. was made available by Jabsco Pump Co., Burbank, Calif. (A-356)

Reel for Hose

A hose reel designed to be used in out-of-the-way places was made available by Clifford B. Hannay & Son, Inc., Westerlo, N. Y. (A-357)

Air-Handling Units

A line of air-handling combination units for applications of ventilating, heating, and air conditioning was announced by Westinghouse Electric Corp., Sturtevant Div., Boston, Mass. The units are available in 13 basic sizes capable of handling 500 to 48,500 cu. ft. per min. (A-358)

Truck To Handle Barrels

A barrel-handling truck that requires no tipping or pick-up space when barrels are stored against each other was announced by Valley Craft Products, Inc., Lake City, Minn. (A-359)

Protective Metal Coating

A protective metal coating called Dimetcote gives steel structures the same protection that galvanizing gives. The manufacturer is Amercoat Corp., South Gate, Calif. (A-360)

Rubber Dock Bumpers

Moulded-rubber dock bumpers that are said to be practically indestructible were announced by Kelley Co., Inc., Milwaukee, Wis. (A-361)

Space Deodorizer

Offensive odors produced in various manufacturing operations can be destroyed by a product manufactured by Aireactor Corp., New York, N. Y. (A-362)

End Stapler

An air-powered end stapler was announced by International Staple & Machine Co., Herrin, Ill. (A-363)

Corrosion-Resistant Pumps

Plastic liners permit handling of corrosive liquids in a series of pumps available from Vanton Pump & Equipment Corp., Div. of Cooper Alloy Corp., Hillside, N. J. (A-364)

Automatic Dock Board

The Hi-Lo dock board, made by Kelley Co., Inc., Milwaukee, Wis., adjusts to carrier beds by using the power supplied by the backing truck. (A-365)

Double-Head Stapler

The Dual Stapler was announced by International Staple & Machine Co., Herrin, Ill. (A-366)

Automatic Glue Applicator

An automatic glue applicator with electromagnetic controls was announced by Saranac Machine Co., Benton Harbor, Mich. (A-367)

Polyethylene Trash Can

A 10-gal. trash can molded of Bakelite polyethylene in one seamless piece was manufactured by Loma Plastics, Inc., Fort Worth, Texas. (A-369)

Coil Dehumidifiers

Central-station-type sprayed coil dehumidifiers were announced by American Blower Corp., Detroit, Mich. (A-370)

Heavy-Duty Exhaust Fans

Heavy-duty propeller-type exhaust fans for industrial installations were announced by American Blower Corp., Detroit, Mich. (A-371)

Prefabricated Buildings

Prefabricated straight-wall steel buildings featuring inexpensive trussless construction were manufactured by Wonder Building Corp. of America, Chicago, Ill. (A-372)

Plastic Pipe

Polyvinyl chloride is the chemical used in manufacturing a line of pipe offered by National Tube Div., United States Steel Corp., New York, N. Y. (A-373)

Submersible Booster Pump

Vertical pumps designed to be completely submerged in wells or tanks were announced by Lane & Bowler Pump Co., Los Angeles, Cal. (A-374)

CONTINUED ON PAGE 156

For more information, circle the A-number on Reader-Service post card.

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Plastic Decalcomania Colors

Tough plastic colors for decalcomania transfers were announced by Allied Decals, Inc., Cleveland, Ohio. (A-375)

Foot Warmer

An electric foot-warming pad, designed to keep workers healthy and comfortable when exposed to cold floors, was announced by General Industrial Co., Chicago, Ill. (A-376)

High-Voltage Heaters

Far-infrared-ray heaters that can be run on 600 v. were developed by Edwin L. Wiegand Co., Pittsburgh, Pa. (A-377)

High-Temperature Insulation

A hydrous calcium silicate product was produced by Owens-Illinois Glass Co., Toledo, Ohio, in blocks and pipe insulation. (A-378)

Spray Gun

A spray gun for paint, oils, insecticides, or any material that can be applied by spraying was introduced by Sullivan-Becker Co., Kenosha, Wis. (A-379)

Stencil Cutter

A fast stencil-cutting machine was announced by Diagraph-Bradley Industries, Inc., Herrin, Ill. (A-380)

Corrosive-Liquid Heater

A tube-and-jacket heater was developed by Corning Glass Works, Corning, N. Y., especially for heating corrosive liquids. (A-381)

Exhaust-Gas Scrubber

Solids, fumes, and odors can be removed from exhaust gases by a hydroprecipitator scrubber developed by Johnson March Corp., Philadelphia, Pa. (A-382)

Small Automatic Lubricator

A small automatic lubricator to lubricate precision machines was announced by Bijur Lubricating Corp., Rochelle Park, N. J. (A-383)

Lathe for Duplicate Parts

A turret lathe designed for the efficient production of duplicate parts was added to the line of lathes made by South Bend Lathe Works, South Bend, Ind. (A-384)

Rotary Pressure Joint

An improved rotary joint designed to convey liquids or gas from stationary pipes to revolving drums was marketed by Seamlex Co., Inc., Long Island City, N. Y. (A-385)

Industrial Stools

Adjusto Equipment Co., Toledo, Ohio, announced a line of fixed-height stools in seven ranges from 18 to 30 ins. high. (A-386)

Thread Pipes Fast

A quick-opening pipe threader to be used with any type of power drive was made available by Beaver Pipe Tools, Inc., Warren, Ohio. (A-387)

Waterless Hand Cleanser

Sugar Beet Products Co., Saginaw, Mich., is providing a 5-oz. polyethylene tube of SBS-30 waterless skin cleanser so that you can squeeze the cream product directly onto your hands. (A-388)

Handy Oiling Pump

A portable hand pump for refilling all types of oil cups and reservoirs quickly and conveniently was manufactured by Trico Fuse Mfg. Co., Milwaukee, Wis. (A-389)

Device To Oil Cutting Dies

A device to flood dies with cutting oil while stock is being threaded with hand dies or power drives was manufactured by Ridge Tool Co., Elyria, Ohio. (A-390)

Giant-Size Capscrews

Giant-size socket capscrews were added to the stock of capscrews made by Bristol Co., Socket Screw Div., Waterbury, Conn. (A-391)

Air Conditioners

A line of complete central-station cabinet-type air-conditioning units was made available by American Blower Corp., Detroit, Mich. (A-392)

Portable Filter

A filter unit that can be moved from one machine to another was announced by Schroeder Bros., Pittsburgh, Pa. (A-393)

Rubber-Drum Tilter

A tilting device designed especially for rubber drums was produced by Nutting Truck & Caster Co., Faribault, Minn. (A-394)

Fuel-Oil Additive

An additive for heavy fuel oils was announced by Stewart-Hall Chemical Corp., Mount Vernon, N. Y. Fuel systems remain clean from tank to chimney when the product is used. (A-395)

Steel Storage Racks

Thirty case fronts can be shown in every 7-ft. section of warehouse area with a new system of racks developed by Artco Corp., Flourtown, Pa. (A-396)

Tape Dispenser

A portable tape dispenser was announced by Minnesota Mining & Mfg. Co., St. Paul, Minn. (A-397)

Remote-Control TV System

A closed-circuit television system developed by Dage Television Div., Thompson Products, Inc., Michigan City, Ind., allows quick and accurate viewing of widely spaced objectives. (A-398)

High-Speed Grease Gun

A grease gun that delivers an ounce of grease in only six strokes of the lever was announced by Lincoln Engineering Co., St. Louis, Mo. (A-399)

Corrosive-Resistant Film

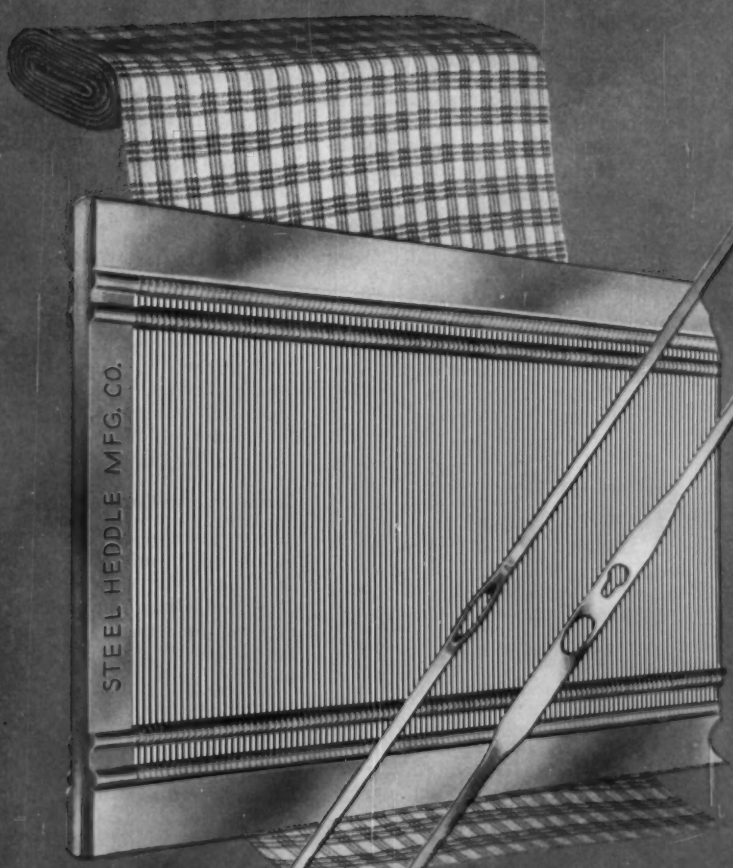
A thin, translucent film made from fluorothene resins has been announced by W. S. Shamban & Co., Culver City, Calif. (A-400)

CONTINUED ON PAGE 158

For more information, circle the A-number on Reader-Service post card.

Stainless Steel

FOR BETTER QUALITY WEAVING



Stehedco Stainless Steel Heddles, Drop Wires and Reeds are becoming increasingly popular because many mills where they are in use have proved that they greatly increase loom production efficiency and have longer life expectancy.

Manufactured with the same precision craftsmanship as all Stehedco Products, they have all their superior features PLUS the added feature that they cannot *rust*, resulting in no cloth blemishes caused by corrosive deposits and longer life expectancy.

Install Stehedco Stainless Steel Heddles, Drop Wires and Reeds in YOUR looms and you will be assured of far greater satisfaction than you ever thought possible, for very much longer. You will have less down time because Stainless Steel lasts longer, and there is less premature breakage. You will also have better quality cloth.

STEHEDCO STAINLESS STEEL HEDDLES, DROP WIRES AND REEDS ARE CHEAPER IN THE LONG RUN

Other Plants and Offices: Granby, Quebec, Canada—Lawrence, Mass.—Greensboro, N.C.—Atlanta, Ga.—Textile Supply Co., Dallas, Texas—Albert R. Breen, Chicago, Ill.

Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

K-5701

CONTINUED FROM PAGE 156

Trolley Conveyor Wheel

A flangeless trolley conveyor wheel was developed by Alvey-Ferguson Co., Cincinnati, Ohio. (A-401)

Exhaust Fan

Fans for handling corrosive exhaust and similar difficult air-moving applications were introduced by Robbins & Myers, Inc., Springfield, Ohio. (A-402)

Vibration Mounting

A vibration mounting for medium and heavyweight machinery was developed by T. R. Finn & Co., Hawthorne, N. J. (A-403)

Hollow-Head Setscrews

Hollow-head setscrews with the socket extending the full length of the setscrew were made available by Bristol Co., Socket Screw Div., Waterbury, Conn. (A-404)

Roof Ventilator

A power roof exhauster to ventilate buildings was produced by Chicago Blower Corp., Franklin Park, Ill. (A-405)

Better Light Bulb

An improved incandescent light bulb that will increase light output up to 15% was developed by General Electric Co., Cleveland, Ohio. (A-406)

Electrostatic Neutralizer Bars

Elimination of static from textiles while they are being processed is accomplished by a device marketed by Herman H. Sticht Co., Inc., New York, N. Y. (A-407)

Do-It-Yourself Racks

You can build your own shelves and racks if you use deck fittings made by B. J. Phillips Co., New York, N. Y. (A-408)

Seamless Mechanical Tubing

Seamless mechanical tubing in round, square, hexagonal, and rectangular shapes was offered by Babcock & Wilcox Co. (A-409)

Fluorescent Lamp

A fluorescent lamp with double the light output of present tubes of equal length was developed by General Electric Co., Cleveland, Ohio. The lamp, called Power-Groove, has a series of lengthwise dents or grooves along one side. (A-410)

Adjustable Loading Ramp

A hydraulically operated loading ramp that compensates for truck-spring deflection was announced by Rowe Methods, Inc., Cleveland, Ohio. Instant raising or lowering from a push-button control positions the ramp to incoming trucks. (A-411)

Adjustable Packages

Three sizes of specially designed corrugated-paper sections will provide 800 different package sizes when handled by a packaging method developed by Signode Steel Strapping Co., Chicago, Ill. (A-412)

Steel Dowel Pins

Dowel pins ranging in size from $\frac{1}{8}$-in. dia. by $\frac{3}{4}$ in. long to 1-in. dia. by 6 ins. long were made available by Bristol Co., Waterbury, Conn. (A-413)

Palletless Handling

An industrial trailer specifically designed for palletless handling was announced by Mercury Mfg. Co., Chicago, Ill. Standard wood- or steel-deck construction has been replaced with 4x$\frac{1}{4}$-in. bar stock. (A-414)

Conduit for Lead Wires

Electric-cartridge-heater lead wires are given complete moisture and vapor protection by a new flexible, rustproof brass conduit. The conduit, announced by Edwin L. Weigand Co., Pittsburgh, Pa., has locking spirals to protect against moisture leakages. (A-415)

Polyethylene Bags

Stock sizes of tubular polyethylene bags were offered by Dobeckmun Co., Cleveland, Ohio. Designed for gloves, shirts, and sweaters, the bags are available in 5x12-, 10x16-, and 11x17-in. sizes. (A-416)

Centrifugal Fans

Fans featuring airfoil-type blades that are 65% quieter and require 35% less power than flat-blade fans were announced by Chicago Blower Corp., Franklin Park, Ill. The fans are suited to ventilating, boiler draft, and other industrial applications requiring up to 1-million cu. ft. per min. (A-417)

Vacuum Cleaner

A transferable-head vacuum cleaner for industrial use was marketed by Hild Floor Machine Co., Chicago, Ill. The unit fits on a standard 55-gal. drum and may be mounted on a portable stand. (A-418)

Device To Bend Tubing

A device to bend stainless-steel tubing is capable of producing a bend up to 180° in one operation. The device bends tubes of $\frac{1}{4}$-, $\frac{5}{16}$-, $\frac{3}{8}$-, $\frac{1}{2}$-, and $\frac{3}{4}$-in. outside diameter and is made by Parker Appliance Co., Cleveland, Ohio. (A-419)

Covering for Concrete

A corrosionproof floor material to be applied directly over concrete was announced by Ceilcote Co., Inc., Cleveland, Ohio. The material can be handled like cement and is applied in thicknesses of $\frac{1}{4}$ to $\frac{3}{8}$ in. per layer. (A-420)

Acoustical Baffle

A low-cost, lightweight acoustical baffle that reduces noise up to 60% was introduced by L.O.F. Glass Fibers Co., Toledo, Ohio. (A-421)

Valve Connection

A spherical union connection for valves that compensates for up to 10° misalignment of vessel tappings in any direction was announced by Jerguson Gage & Valve Co., Somerville, Mass. (A-422)

Redesigned Gate Valve

The No. 430 125-lb. brass rising-stem double-wedge disk gate valve was redesigned by Crane Co., Chicago, Ill. The body neck is now cylindrical to offer maximum strength in the body structure, which eliminates the need for massive wall sections. (A-423)

CONTINUED ON PAGE 212

For more information, circle the A-number on Reader-Service post card.

If you use Chlorine, these manuals are "musts" Write for yours today!

These two excellent manuals were prepared under the careful supervision of Columbia-Southern's technical staff. They provide much valuable knowledge on chlorine, and they're yours without charge. Please use company stationery and send your request to Columbia-Southern Chemical Corporation, Chlorine Department, One Gateway Center, Pittsburgh 22, Pa.

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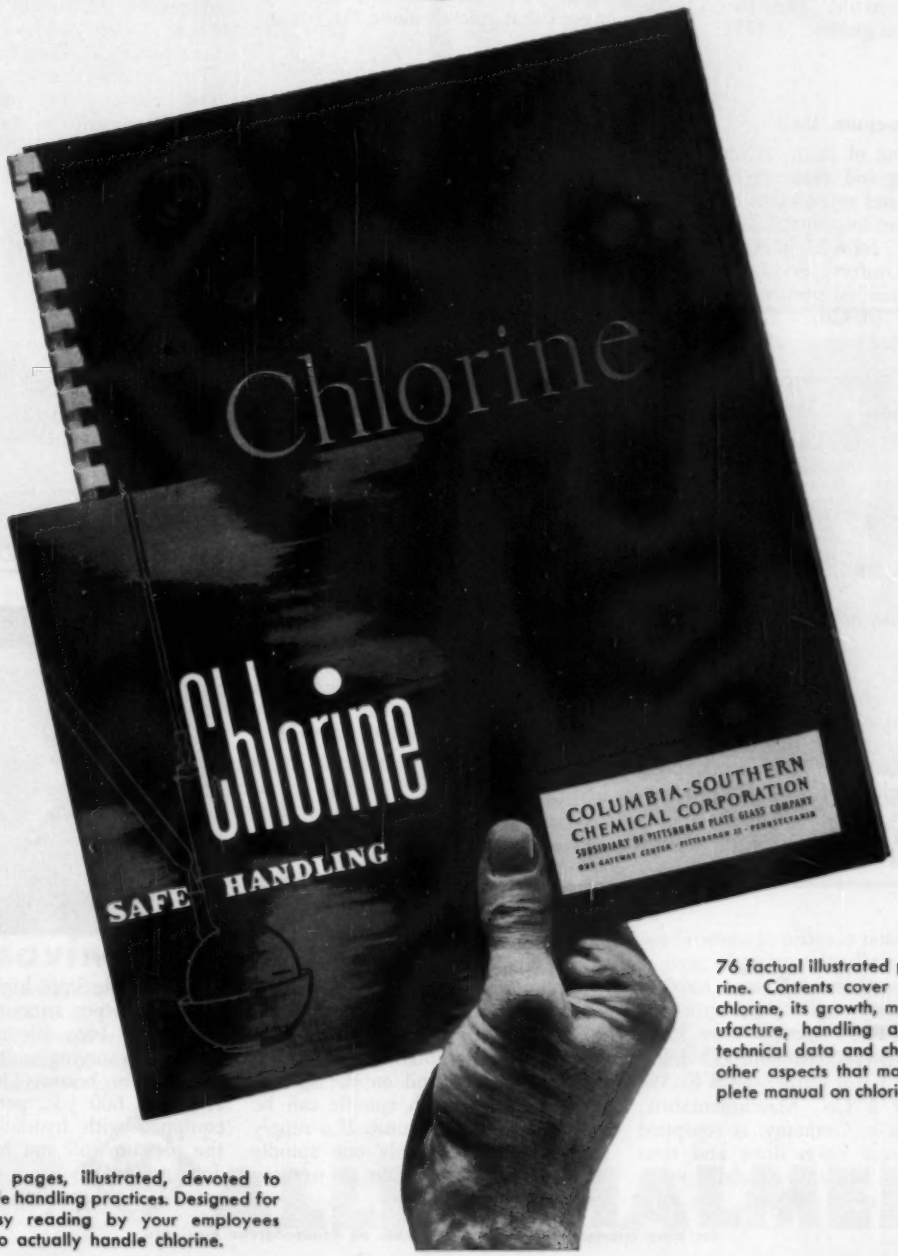

76 factual illustrated pages on chlorine. Contents cover the history of chlorine, its growth, method of manufacture, handling and unloading, technical data and charts, dozens of other aspects that make this a complete manual on chlorine.

28 pages, illustrated, devoted to safe handling practices. Designed for easy reading by your employees who actually handle chlorine.

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CONTINUED FROM PAGE 118

Bobbin for SG-1 Frame

A bobbin for the Saco-Lowell Gwaltney SG-1 spinning frame, featuring a thermosetting-plastic tip and seat section, was announced by American Paper Tube Co., Woonsocket, R. I. (A-424)

Harder Thread Guides

Alumina-ceramic thread guides were announced by Titania Div., American Lava Corp., Chattanooga, Tenn. The guides are harder and longer-lived than previous guides. (A-425)

Steamer-Vacuum Unit

Application of steam or vacuum to twist setting and moisture control in baled fiber and rayon cakes is possible in a machine introduced by Vacuum Process Div., John Mohr & Sons, Chicago, Ill. Uniform drying with controlled regain is possible with the equipment. (A-426)

Roll Cleaner

A portable roll cleaner that permits an operator to brush and clean clearer rolls in half the time required by hand cleaning has been announced by Loftex Machine Co., Bolton, Ga. (A-427)

Thread-Aspirator Filter Box

The interior of the filter box for the thread-aspirating system on Rieter woolen and worsted spinning frames was made accessible by a hinged door, according to American Rieter Co., Inc., Arlington, N. J. As a result, it is no longer necessary to dismantle the box to clean the filter grid and the air duct that extends along the frame. (A-428)

Bobbin-Stripping Machine

A bobbin-stripping machine that strips 100 bobbins per minute was announced by George Fischer Ltd., Schaffhausen, Switzerland.

The machine is for straight-barrel bobbins with heads of $1\frac{1}{16}$, $1\frac{1}{8}$, or $1\frac{1}{4}$ ins. and with three or four steel rings. Bobbins from $6\frac{3}{4}$ to $10\frac{1}{4}$ ins. may be stripped. (A-429)

Long-Wearing Picker Teeth

Long-wearing picker teeth for all types of picking applications were announced by Robert A. Main & Sons., Inc., Paramus, N. J. (A-430)

Intermediate Roving Frame

An intermediate roving frame fitted with sliver guide rods at the feed side and two rows of feed rolls was announced by Joh. Jacob Rieter & Co. Ltd., Winterthur, Switzerland. (A-431)

Yarn-Conditioning Attachment

The Monarch yarn-conditioning and marking attachment for automatic Abbott quillers was announced by Mona Industries, Inc., Paterson, N. J.

The attachment consists of a liquid-transfer surface installed in the cork-friction strip on the quiller's receiving table. The bobbin pusher rolls the quill over the wet surface, where the yarn picks up the required amount of moisture or color and continues on its customary route. (A-432)

Creeling Ladder

Ballymore Co., Wayne, Pa., has announced a creeling ladder to facilitate textile handling. The unit consists of a mobile ladder with a large metal basket-type container mounted on top. (A-433)

TWISTING, WINDING, WARPING, SLASHING

CONTINUED FROM PAGE 120

Static Eliminator

Simco Co., Lansdale, Pa., announced the application of its HE shockless static bars to horizontal warpers. Principal advantages of the static eliminator are that it stops the flying of ends, prevents overlapping and entangling of adjoining section edges, does away with warp section marks, and permits closer spacing of the sections. (A-434)

Beam Warper

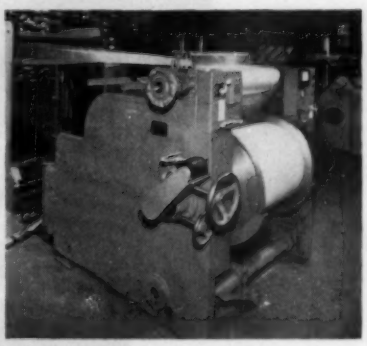
The Universal Model-EZD high-production beam warper, built by W. Schlafhorst & Co., Maschinenfabrik, M. Gladbach, Germany, is equipped with a direct beam drive and runs with stepless hydraulic-regulated warping speeds up to 600 yds. per min.

The warper can be adjusted for producing perfect beams for the slasher or for winding soft dye beams. When the machine is adjusted for dye beams, the pressure of the contact roller can be reduced to a low value. (A-435)

Twister Frame

A twister frame, made by Prince-Smith & Stells, Keighley, Yorks, England, is used for doubling and cabling nylon and other synthetic yarns to eliminate assembly winding.

Each thread in the creel has an individual stop motion that acts on the delivery rolls and on the spindle simultaneously. Each spindle can be run as an individual unit. If a supply package runs out, only one spindle will stop while the others are running and producing. (A-436)



Tricot Warper

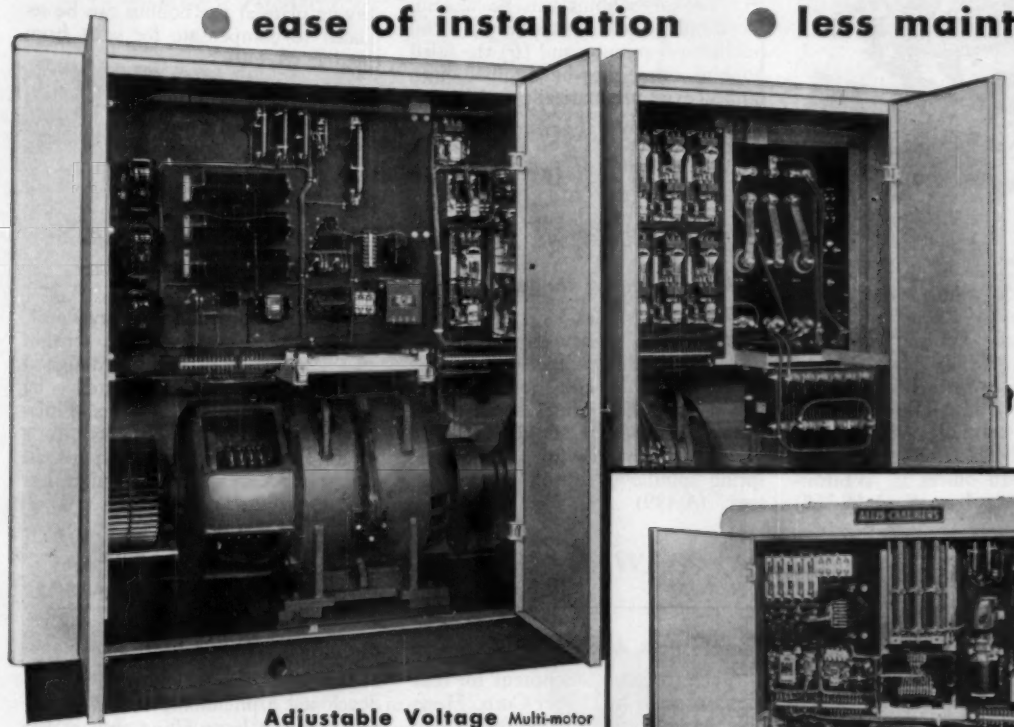
The Kidde-Sipp high-speed tricot sectional warper, announced by Kidde Mfg. Co., Inc., Bloomfield, N. J., is made in varying widths to produce 14- to 42-in. beams. The warper runs at 75 to 600 yds. per min. and is equipped with hydraulic loading of the pressure roll and hydraulic beam doffing. (A-437)

CONTINUED ON PAGE 162

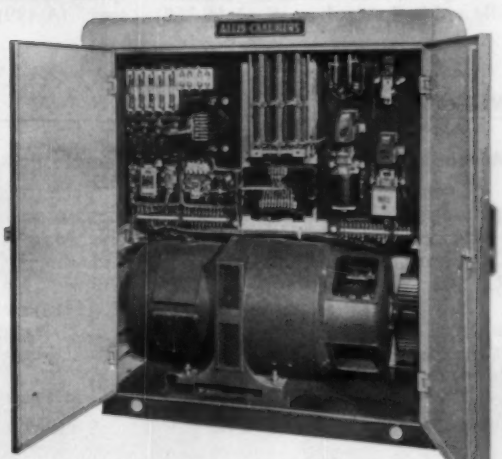
For more information, circle the A-number on Reader-Service post card.

There's MORE dependable speed control

- controlled response
- no fragile parts
- ease of installation
- less maintenance



Adjustable Voltage Multi-motor *Package Drive* Unit, rated 125 hp, is ideal for many textile applications.



This smaller 30-hp unit, like all Allis-Chalmers units, saves valuable floor space. Only component needed near your equipment is the drive motor.

Whether the operation is washing, drying, printing, dyeing, bleaching, slashing or warping — every one of the design features of the Allis-Chalmers Adjustable Voltage *Package Drive* Unit assures you an easy, dependable means of power conversion.

Key to dependability of these *Package Drive* units is the use of a magnetic amplifier to excite the field of the power unit m-g set. Sturdy and simple, this amplifier has no moving parts to wear out . . . no fragile components to be affected by vibrations. AND — there's no wasteful "warm-up" time needed. At the turn of a dial, you get immediate speed control.

Cost-saving assembly

M-g set and control components are assembled in the power unit enclosure at the factory — saving you installation costs. Enclosures used for 30 through 200-hp units are completely collapsible and may be easily disassembled without loss of rigidity. Larger units have separately driven blowers to provide positive ventilation and pressure even when unit is idle.

Available in units from 5 to 200 hp, the *Package Drive* unit is ideal for any application requiring adjustable speed. Contact your nearby Allis-Chalmers sales office or write Allis-Chalmers, General Products Division, Milwaukee 1, Wisconsin.

A-5189

ALLIS-CHALMERS

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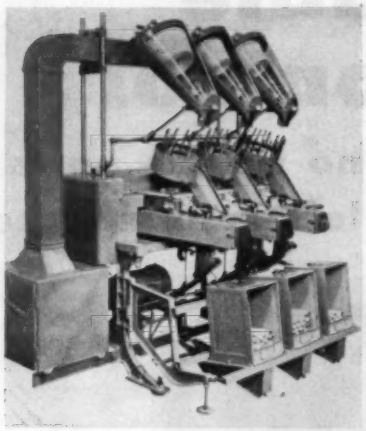


Filling Winder

An automatic filling winder with spindle speeds to 10,000 rpm. was announced by Whitin Machine Works, Whitinsville, Mass., under license from Schweiter Ltd., Horgen Zurich, Switzerland. The winder is sold through normal Whitin sales channels and by H. J. Theiler Corp., sales agent, with offices in Whitinsville and in Spartanburg, S. C. (A-368)

Features of the Fill-Master winder are: (1) there is a dust exhaust system for every winding position to insure cleanliness; (2) bobbins are wound without tails, and scissors and tail cutters are eliminated; (3) differential binding of yarn layers produces firm packages with minimum tension; (4) 10⅛-in. bobbins can be wound; (5) a bobbin loader supplies up to 60 bobbins per minute; and (6) the filled bobbins can either be dropped onto pinboards or automatically packed into a loom box. (A-438)

Package Arm for Magazine Creel

Edward J. McBride Co., Inc., Philadelphia, Pa., developed a swinging package arm for magazine creels. The new arm has an adjustment to vary the swing radius while retaining the positioning lock. Cone holders and adapters are used with the bowed-spring spindle to handle most packages. (A-439)

Metal Twister Bobbin

An all-metal ring-twister bobbin was developed by Cloverleaf-Freeland Corp., Hazelton, Pa. The bobbin weighs 12½ oz.

An aluminum tube runs through the center of the bobbin and acts as a full-length spindle bearing. The driving plate at the bobbin can be replaced to compensate for wear from the dog. (A-440)

Redesigned Tension Unit

A combination three-post, two-post, and adjustable-post disk-type tension unit is a feature of the redesigned Tension-Master manufactured by Edward J. McBride Co., Inc., Philadelphia, Pa. The device permits a greater range of tension variation than the previous model and requires less time for adjusting. (A-441)

WEAVING

CONTINUED FROM PAGE 122

Mechanical Loom Cleaner

A loom cleaner that uses helically spinning jets of high-velocity air was introduced by American Moistening Co., Cleveland, N. C., and Providence, R. I.

Air is driven at an acute angle in a series of overlapping circular patterns at the loom and cloth surfaces to produce a rapid series of bursts of cleaning action. The cleaner passes over the looms in a timed cycle. (A-442)

Reed-Cleaning Machine

Improvements were announced by Affutex Hagerup & Lindqvist Eftf., Georg Larsen Machinery, Copenhagen, Denmark, on its Excelsior reed-grinding and -polishing machine. The machine is sold in the U. S. by Edda International Corp., New York, N. Y., and Greenville, S. C.

Improvements: It is now impossible to block the stop nuts inadvertently. The stone- and brush-holder arm is equipped with springs that absorb shock. The holder has a new lifting mechanism. All axles have oil packing rings, and the brush-holder arm has a rubber case. (A-443)

Temple Post Attachment

A selvage post attachment for temples was made by Draper Corp., Hopedale, Mass. It is designed for all two- and three-roll adjustable-top Draper temples. No lubrication is required. (A-444)

Filling Rack for Looms

A filling rack for mounting at the loom was offered by Bennett Rose Co., Roebuck, S. C. The rack is placed near the loom battery and is mounted on the floor so that loom vibration does not slough off the filling. The box, used with the automatic stacker on Abbott quillers, is brought to the loom with the bobbins inside. (A-445)

Ball-Bearing Sheaves

National Plastics, Inc., Knoxville, Tenn., added ball bearings to a line of its harness sheaves. The company also eliminated the reinforcing spokes in the sheave, making the sheave neater and easier to keep clean. (A-446)

Pneumatic Thread Clearer

Draper Corp., Hopedale, Mass., developed a pneumatic thread clearer that removes loose filling ends at the loom battery. It is said to reduce dragins and other imperfections and to contribute to over-all loom cleanliness. (A-447)

Electric Feeler for Loom

An automatic electric feeler for four-by-four-shuttle looms was announced by Maaljo Textiles, Inc., Paterson, N. J. The feeler can be used on any loom with an electric warp stop motion. (A-448)

Lubricant for Picker Rod

A lubricant for loom picker rods that eliminates dripping oil, excessive friction, overheating, and frequent looms stops was developed by Garland Mfg. Co., Saco, Me. The lubricant comes in a squeeze tube and is equipped with a plastic spreader that screws on the tube. (A-449)

CONTINUED ON PAGE 164

For more information, circle the A-number on Reader-Service post card.

what have

HYATTS

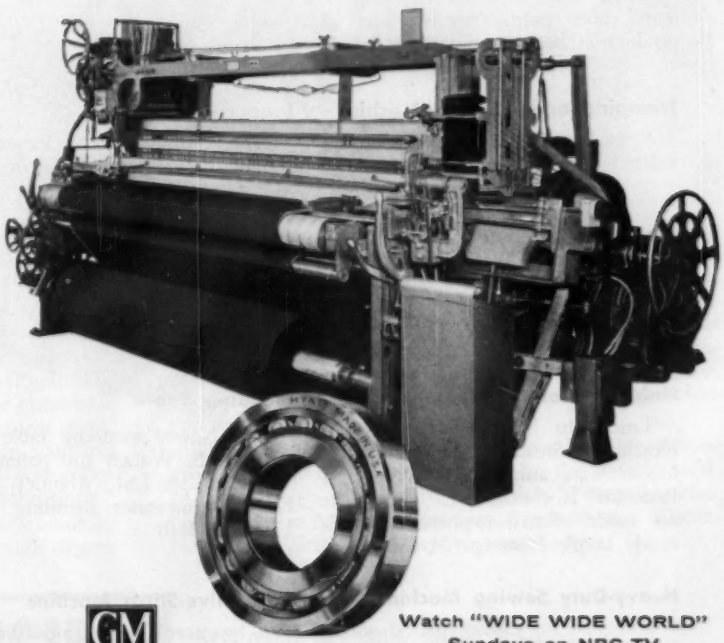
to do with

all this?

Critical Settings help win *Critical Approval!*

When glamorous models parade the latest creations of a famous couturier, both fashions and fabrics are critically scrutinized. Texture and finish are in the spotlight . . . helping to make or break the sale . . . depending on how well critical settings have been maintained!

Even if you don't loom fashion fabrics, *quality* is vital to your sales . . . and HYATT Hy-Roll Bearings are one of your surest safeguards of textile quality. Today's HYATTS are designed to maintain critical settings far more accurately and dependably than ordinary bearings. Remember, too, HYATTS can save you up to 90% on lubrication . . . up to 40% on power . . . positively prevent oil splatters. *Be sure to specify HYATT Hy-Roll Bearings on all your new or modernized machines—it pays!* Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.



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Sundays on NBC-TV

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FOR TEXTILE INDUSTRY

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WEAVING

CONTINUED FROM PAGE 162

Loom Stop Motion

A feeler stop motion for 4x4 drop-box looms being operated pick-and-pick was announced by A. D. L. Co., Paterson, N. J.

With the feeler, the loom is stopped before the filling is run off the quill. The loom stops when the warp shed is open before the shuttle boxes change. **(A-450)**

Plastic Jacquard Cards

Jacquard cards made from plastic were developed by Imperial Chemical Industries Ltd., London, England. The cards are said to be very durable and aren't affected by humidity or water. **(A-451)**

Rust-Resistant Drop Wire

A galvanized drop wire for looms that resists rust much longer than previous drop wires was announced by Steel Heddle Mfg. Co., Philadelphia, Pa. The galvanized drop wires are said to be as effective as copper drop wires with electrical stop motions. **(A-452)**

After-Waxing Applicator

An after-wax for Dacron, nylon, and other synthetics has been marketed by Bryant Chemical Corp., North Quincy, Mass. The product is emulsifiable and will not gum up at the slasher or cause finishing troubles. **(A-453)**

KNITTING

CONTINUED FROM PAGE 124

Outerwear Attachments

New attachments on Reading full-fashioned outerwear machines, made by Textile Machine Works, Reading, Pa., can make variable widths of lace design, continuous or interrupted lace panel designs, boucle effects, lace, intarsia, and striped patterns. Safety stop motions, controlled narrowing spindles, and double-control automatic filler points prevent loss of production because of jams. **(A-454)**

Stamping and Marking Machine

A machine for marking hosiery and knitted goods and other textile items was announced by O. Hebestreit & Co., OHG, Gottingen, Germany. The machine marks the maker's name, quality mark, or size in gold, silver, or color.

The length of the die head is 6 ins. The width is 2¼ ins. The machine will mark 500 doz. pairs of hosiery in 8 hrs. and make 6,000 label imprints per hour. **(A-455)**

Looper Guard

A clear, smooth plastic looper guard supplied by Plastic Industries, Inc., Athens, Tenn., covers the screw heads near the points on the outside rim of the looper. The guard is designed to decrease picks and pulls under the looper. Stockings are prevented from soiling by oil. **(A-456)**

Mock-Fashion Machine

A compact mock-fashion machine for simulating the full-fashioned operation on sweaters was introduced by Columbia Sewing Machine Corp., New York, N. Y. **(A-457)**

BLEACHING, DYEING, & FINISHING

CONTINUED FROM PAGE 129

Finishing-Plant Trucks

Trucks to handle wet goods in bleacheries, finishing plants, and dyehouses were announced by Bennett Rose Co., Roebuck, S. C. The trucks are made of marine-plywood panels inside maple framing. **(A-458)**

Heavy-Duty Sewing Machine

Designed for canvas, plastic goods, leather, and other heavy fabrics, two sewing machines, single- and double-needle types, were announced by Pfaff Industrial Sewing Machine Co., E. Orange, N. J. **(A-459)**

Mending Table

The Newey mending table developed by S. Waugh and patented by W. E. Yates Ltd., Bramley, Leeds, England, increases mending output 15%. **(A-460)**

Decorative-Stitch Machine

A two-needle sewing machine capable of a wide range of decorative stitches was developed by Singer Sewing Machine Co., New York, N. Y. Rated speed is up to 2,000 stitches per minute. **(A-461)**

Laboratory Calender

Designed to duplicate the effect of a plant-size calender, this small machine will produce rolling, glazing, embossing, and frictioning effects on samples.

Pressure to 13,200 psi. can be produced by hydraulic loading. A variable-speed drive gives speeds from 3 to 20 yds. per min., and friction can be applied up to 300% of cloth travel. The calender is made by Dr. Ramisch & Co., GmbH. Maschinenbau, Krefeld, Germany. **(A-462)**

For more information, circle the A-number on Reader-Service post card.

Stainless is used extensively in the backwasher shown at left, and the scouring machine below, both manufactured by C. G. Sargent's Sons Corporation, Graniteville, Mass.

HOW stainless HELPS PRODUCE BETTER YARNS AT LOWER COST

Here are some of the reasons why *stainless* is the best friend the textile mill ever had:

Resists Corrosion — Lasts Longer — Stainless just about never wears out—and its smooth, rust-free surface resists the corrosive bite of most chemicals used in textile manufacture. The backwasher and scouring train illustrated, for example, use stainless wherever liquors or chemicals come in touch with metal. Their manufacturer says, "The caustics and acids used, particularly in scouring heavy grease wools, are pretty strong stuff—few other metals would stand up under such exacting conditions."

Stainless Babies Fibres — Stainless presents a smooth, non-snagging surface to stock in transit through dryers —especially important with cashmere and other soft, tender fibers. And stainless is just as vital for parts such as teeth and rakes in openers and pickers. "For stainless helps do a more thorough preparatory job without damage to fibers—makes for better, easier, far more economical production of first quality yarns." And, of course, stainless is about the easiest material to keep clean that you can find.

There's a lot more to the story of how stainless means greater efficiency—greater profits in the textile mill. Much of it is contained in Crucible's 32-page booklet, "Making the Most of Stainless Steels in the Textile Industry." Write for your free copy today.

CRUCIBLE first name in special purpose steels

Crucible Steel Company of America

Canadian Distributor — Railway & Power Engineering Corp., Ltd.

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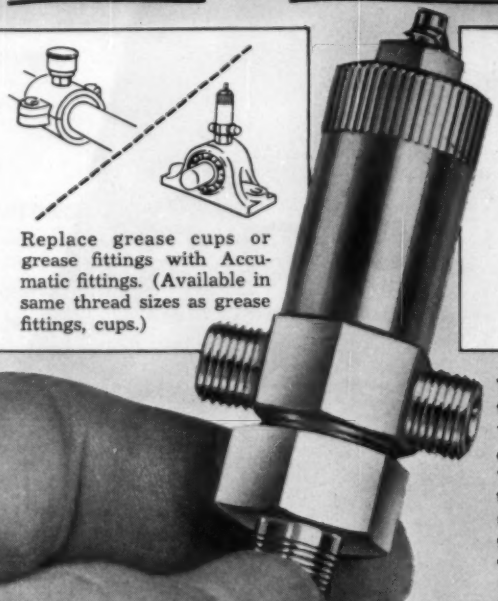
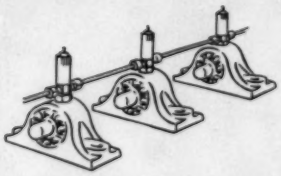
Just 4 Easy Steps to Automatic Lubrication From One Central Point

with an ALEMITE Accumatic® System

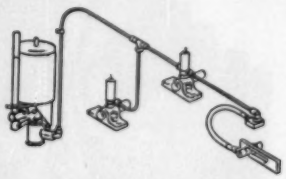
FASTER . . . FOOLPROOF . . . LESS COSTLY!



Replace grease cups or grease fittings with Accumatic fittings. (Available in same thread sizes as grease fittings, cups.)



Connect Accumatic fittings with copper tubing. (Alemite has tubing, clips and accessories for easy installation.)



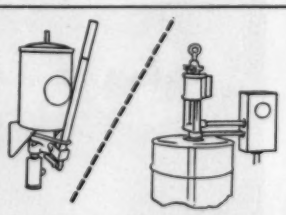
Connect sliding, rotary or oscillating parts into tubing system. (Flexible hose and swivels for moving parts.)

The fitting that "thinks for itself!"

The Alemite Accumatic System eliminates the work, worry and "human error" of manual lubrication. It fits directly on bearings—meters an exact shot of oil or grease automatically—at predetermined intervals—while the machine operates. Cuts labor, production and maintenance costs!

Factory-tested—field-proved!

Grueling field tests show no appreciable variation in the amount of lubricant discharged after 73,312 cycles—equal to *122 years of twice-a-day service!*



Provide central pump to supply lubricant to system. (Ordinary hand pump or fully automatic barrel pump.)

ALEMITE ACCUMATIC ADVANTAGES!

- Prevents application of wrong lubricant.
- Seals completely against damaging dirt, grit and water.
- No parts are neglected—lubricates inaccessible and dangerous bearings at regular intervals.
- Eliminates product spoilage due to over-lubrication.
- Eliminates point-by-point lubrication methods—services all bearings in one operation.
- Delivers *exact* amount of lubricant to bearing.

FREE! Alemite Accumatic Catalog

Alemite, Dept. J-27
1850 Diversey Parkway, Chicago 14, Illinois

Please send me my free copy of the complete Accumatic Catalog.

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STEWART SW WARNER

A Division of STEWART-WARNER CORPORATION

EQUIPMENT and SUPPLY NEWS

All-Purpose Twister

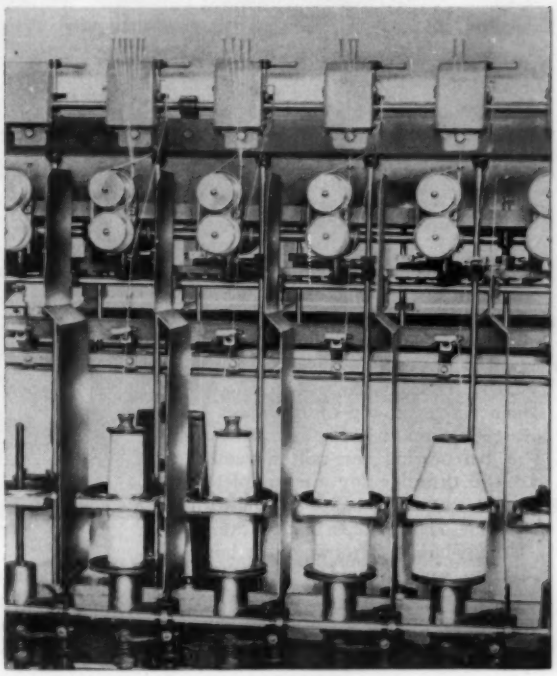
A twister, Master-Duplex Double-Twister, to handle all sizes and types of yarns from the finest silk, nylon, and glass to the heaviest spun natural or synthetic yarns is being produced by The Fletcher Works, Glenwood Ave. and Second St., Philadelphia 40, Pa.

In addition, novelty yarns of unlimited varieties can be twisted. A test room is set up at Fletcher's plant so that mill men can experiment with and test their own yarns on the twister.

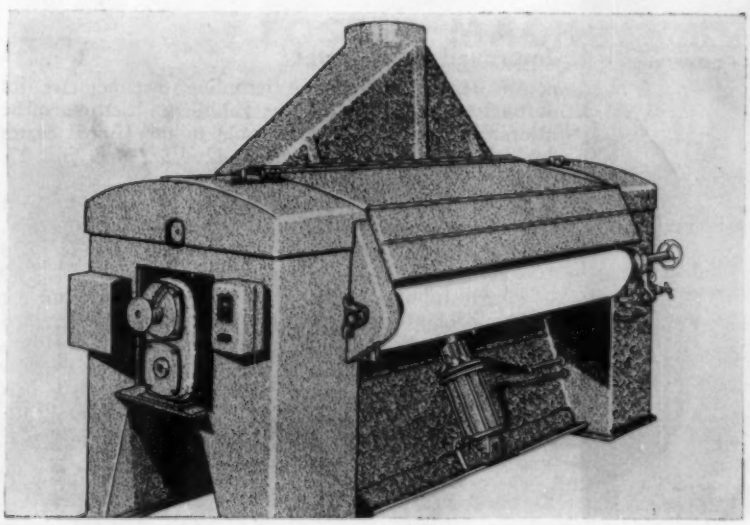
The ring size of the twister is 6 ins. in diameter to provide large-capacity bobbins in a minimum of floor space. A traverse of up to 9 ins. for straight and tapered-top bobbins and a 10½-in. traverse for double-tapered packages increases the capacity of the bobbins.

Spindle whorls up to 2½ ins. in diameter provide greater belt contact for more-accurate twist and permit package sizes up to 5 lbs. Other features include oilless bushings, stainless-steel shafts, and endless and lapless spindle belts that can be replaced in 30 mins.

Full-length balloon separators swing out to permit cleaning while the twister is in operation, and therefore production is increased. Totally enclosed unit controls with large doors permit complete access to all mechanisms: a motor mounted on ball-bearing sliding base, long-wearing nylon bevel-gear feed-roll drive for silent and clean operation, and custom-built yarn creel with or without tension devices.



Circle T-1 on Reader-Service Card

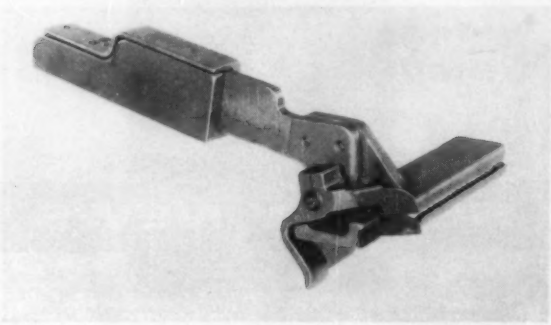


High-Pile-Fabric Finisher

Turbo Machine Co., Lansdale, Pa., announces a machine for producing a fur-like finish on high-pile fabrics or for finishing other types of pile fabrics.

The machine uses an electrically heated grooved cylinder to align and polish the fibers to produce the fur-like effect. Heat and pressure are controlled automatically and are adjustable to suit the fabric being processed.

Circle T-2 on Reader-Service Card



Loom Temple

A temple featuring a scissor-type thread cutter is available from Draper Corp., Hopedale, Mass.

The temple is for X and X-2 looms and is mounted on a torsional rubber bearing. The thread cutter is adjustable and requires no lubrication. Its simplified construction is said to greatly reduce wear to both temple and thread cutter.

Circle T-3 on Reader-Service Card

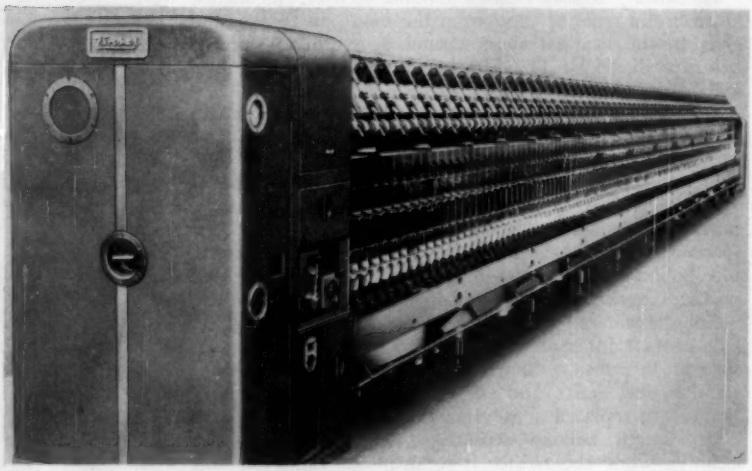
Direct-Spinning Frame

A direct-spinning frame that produces 4s to 12s yarn from drawing sliver is now being made by Zinser Textilmachinen GmbH, Ebersbach Fils, West Germany.

The one-sided frame has a positive helical-gear drive for the spindles, which are made by Hispano-Suiza. No tapes or cylinders are used. A centrifugal clutch prevents overloading of the drafting system. All fluted rolls have antifriction bearings.

Two ring separators per spindle are arranged one on top of the other to give extra support to the yarn balloon. The ball-bearing ring-rail movement and the thread guide are completely covered, and an exhaust system with return-air device keeps them clean.

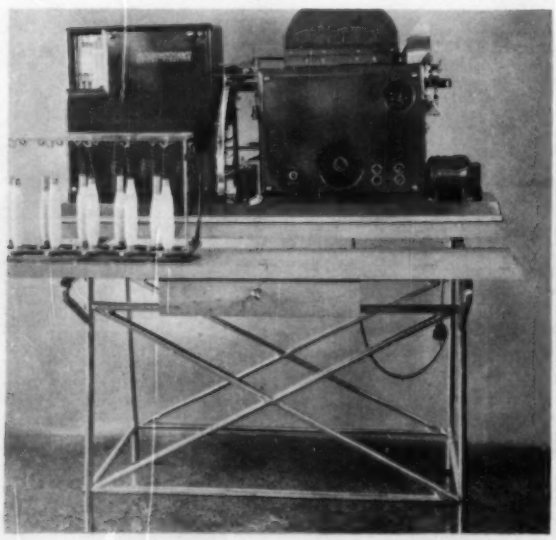
Underwinding starts when the build is 10 mm. from the end of the bobbin. During the downstroke, underwinding is accomplished by turning a hand crank at the underwinding shaft.



Spindle speed is adjusted by changing the counter pulley to the motor, which has a self-tightening flat-belt drive.

The machine is sold in the United States by Watson & Desmond, P. O. Box 1954, Charlotte, N. C., and in Canada by Crowther Ltd., 212-214 Victoria Ave., West Montreal, Que.

Circle T-4 on Reader-Service Card



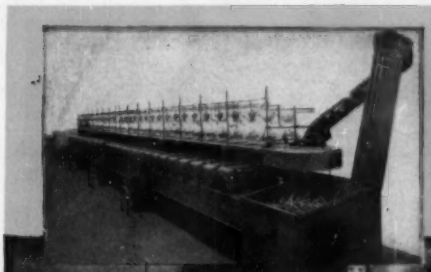
Improved Yarn Tester

An improved automatic recording dynamometer for testing yarns, announced by Fabbriche Elettrotecniche Riunite, Milan, Italy, will be sold in the United States by Stellite American Corp., 60 E. 42nd St., New York 17, N. Y.

Called Autodinamografo Model M, the instrument will handle yarns with a breaking strength to 2,500 grams. Pulling speed varies from 4 to 14 mm. per sec.; 70 tests can be run in about 20 mins.

The distributor, which prevents yarn from tangling at the bobbin change, can be set for a predetermined number of tests on one or more bobbins. Other improvements include a detached creel that gives better control over tension, a new separator plate, and a new waste-collection system.

Circle T-5 on Reader-Service Card

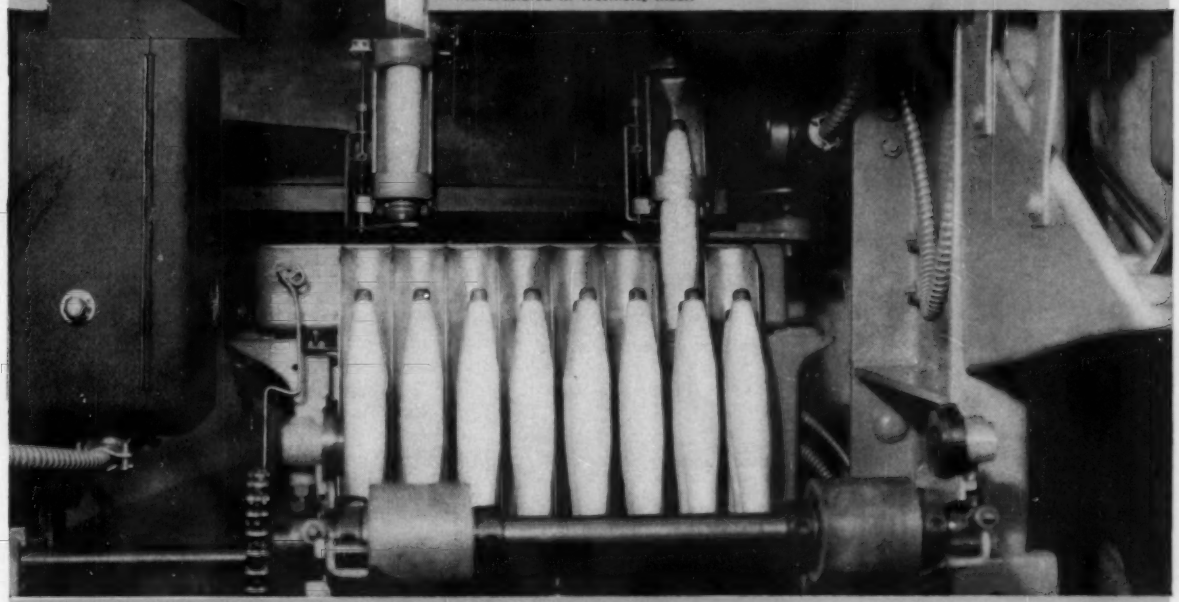


FOSTER-MUSCHAMP Model 66*

Automatic Filling Winder

A NEW HIGH IN WINDING QUALITY
A NEW LOW IN WINDING COSTS

*Manufactured in Westfield, Mass.



Automatic pinboarder serving 8 spindles

ALSO MAXIMUM FLEXIBILITY

The Foster-Muschamp Model 66 offers not only a new high in winding quality and a new low in winding costs, but also MAXIMUM FLEXIBILITY, through independently controlled spindles. Different counts or colors can be run on different spindles (in gangs of 2, 4 or 8) of the same machine at the same time. The machine will also handle equally well all types and counts of yarn from coarse cotton, wool or worsted to the finest counts of filament yarns without the use of extra attachments or complicated adjustments. Since mills are called upon for an ever increasing number of filling styles, this flexibility is of vital importance.

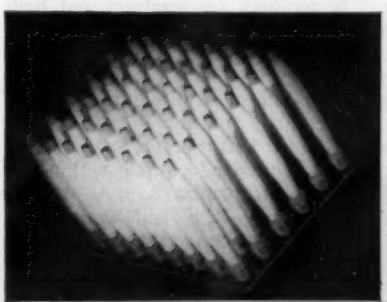
Learn about ALL the advantages of the Model 66 (there are many). Write for Bulletin M-4A.

FOSTER MACHINE COMPANY

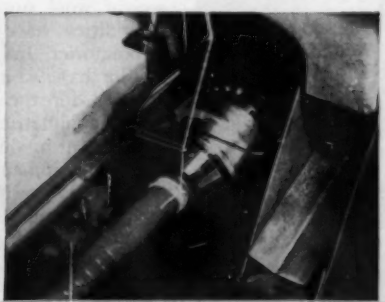
Westfield, Massachusetts, U.S.A.

Southern Office — Johnston Bldg., Charlotte, N. C.

Canadian Representative — Ross Whitehead & Company Limited, 1475 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ont.

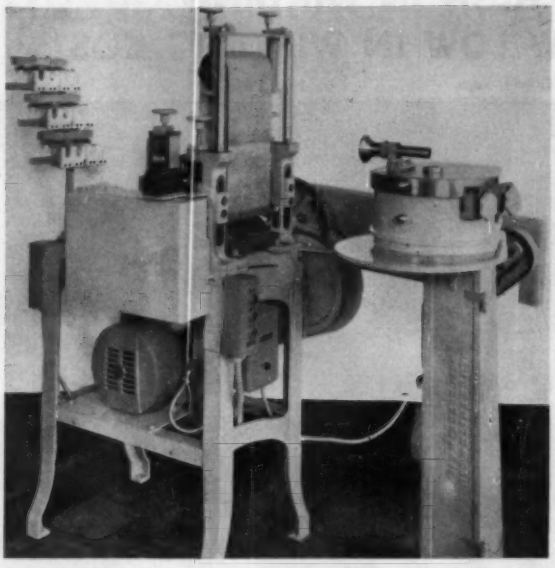


Note uniformity and perfection of Model 66 bobbins.



No starting tail on Model 66 bobbins. The tail is secured under first wraps of bunch.

Automatic donning and doffing of bobbins and other features cut winding cost to as low as ¼c per lb.



Open Doubler

Designed as the first operation following the Perlok process of synthetic-tow conversion, the Hood open doubler is applicable to all synthetic fibers. The doubler, which is made by R. H. Hood Co., 19th & Westmoreland Sts., Philadelphia 40, Pa., produces 100 lbs. per hr.

The machine (1) opens the tightly crimped sliver, (2) breaks straggler fibers, (3) aligns fiber ends that have curled back in breaking to reduce over-all nip problems, (4) shortens maximum staple length below the limit of the Perlok process, (5) opens the compressed relaxed slivers, and (6) matches staple diagrams for high-bulk yarns.

The coiler delivery gives even-running, uniform packages for subsequent gilling operations. The normal draft range is from 2.1 to 8.1 depending on the material being processed and the sliver weight required.

Staple length is quickly adjusted from 10-in. maximum to 3-in. minimum. While designed for synthetics, the machine can be used on natural fibers to break off the longer part of the diagram and reduce staple length.

The machine is driven from a 2-hp., 1,200-rpm., fan-cooled, totally enclosed motor from two V-belts. The front rolls are 4 ins. in diameter. The back rolls consist of two 2½-in.-dia. Accotex-covered shell rolls on needle bearings and two 2½-in.-dia. hardened-steel rolls. The coiler size is 15x26 ins. There are front and back stop motions with a Veeder-Root predetermining counter.

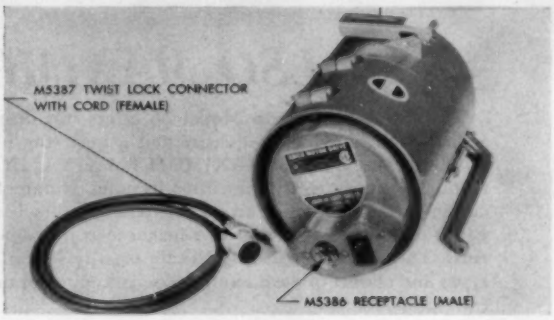
Circle T-6 on Reader-Service Card

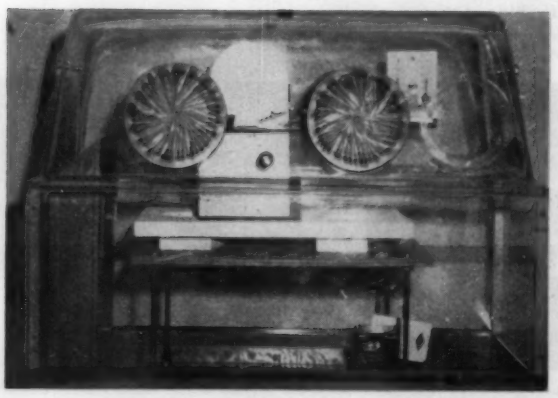
Four-Wire Connector

A four-wire three-phase connector for its Amco Series-E motor drives has been marketed by American Safety Table Co., Reading, Pa.

The unit is the positive-locking type and is available for Series-E motors of 250 v. a.c., or less.

Circle T-7 on Reader-Service Card





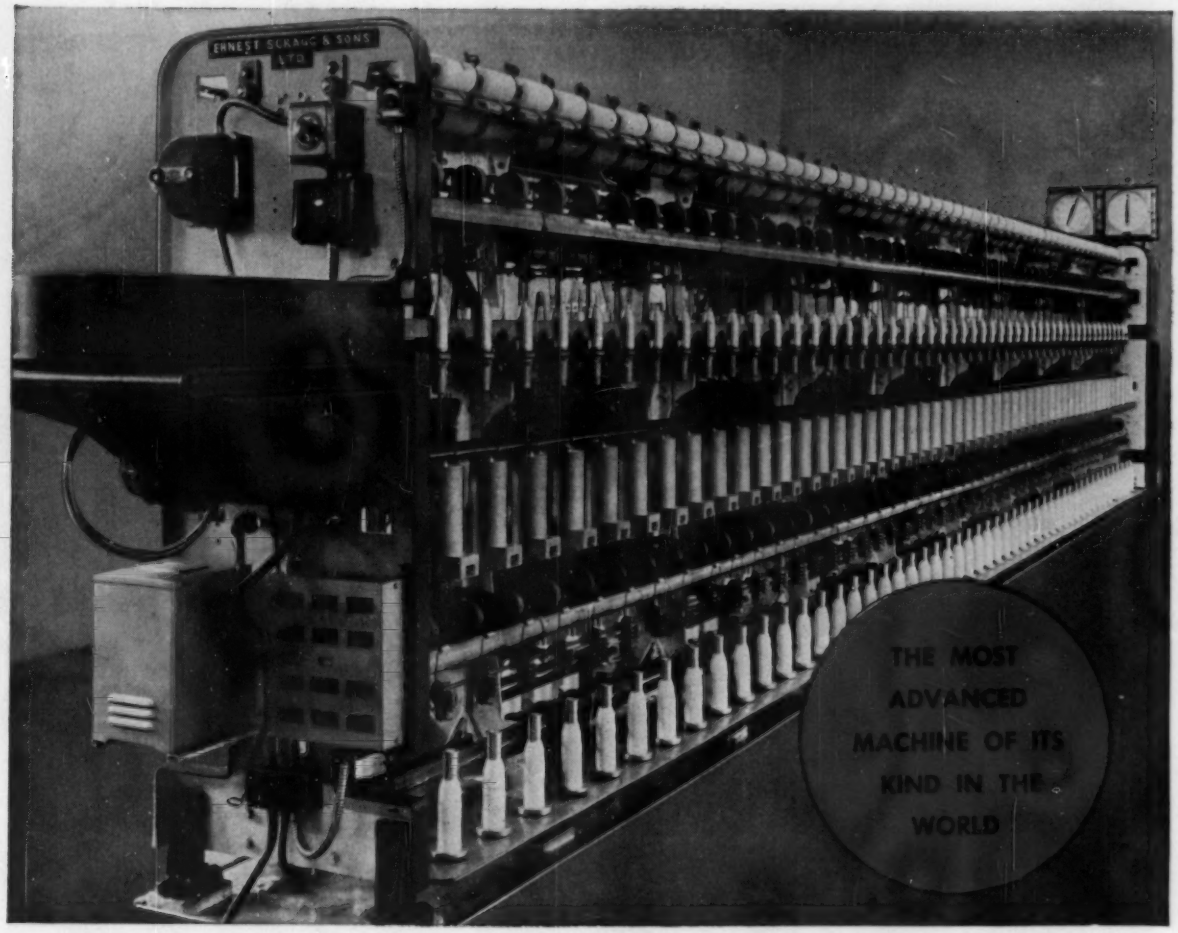
Wool Testing Device

An apparatus for determining the behavior of lightweight wool suitings under high temperatures and high humidities has been announced by Fabric Research Laboratories, Inc., Dedham, Mass.

The basic component is an incubator originally constructed for the protection of premature infants. The unit's volumetric, temperature, and humidity capacities have been modified in order that the necessary textile testing equipment may be contained entirely within the temperature-humidity controlled chamber.

A maximum temperature of 95° F. and a maximum relative humidity of 95% can be accurately achieved and controlled. The desired temperature and humidity are obtained by vapor pressure created in passing heated air over a tray of salt in solution.

Circle T-8 on Reader-Service Card



ONE OF THE SUCCESSFUL ERNEST SCRAGG MACHINES FROM THE KNITTING MACHINERY EXHIBITION AT LEICESTER, ENGLAND.

THE REVOLUTIONARY

C.S.1. CRIMP TWISTING MACHINE

Designed and manufactured throughout by ERNEST SCRAGG & SONS LTD., this remarkable machine produces finished crimp yarn in Nylon, Terylene, etc., in a single high-speed operation. Bristling with exclusive features, this new ERNEST SCRAGG triumph demands your closest attention.

- TREMENDOUS INCREASE IN PRODUCTION, WITH LOWEST COSTS
- VAST ECONOMIES IN FLOOR SPACE AND POWER CONSUMPTION
- PERFECTLY STRAIGHT YARN PATH
- ELECTRONICALLY CONTROLLED THROUGHOUT
- MINIMUM SPEED OF 30,000 r.p.m.

ERNEST SCRAGG & SONS LIMITED

ESTABLISHED 1889

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CW 3884

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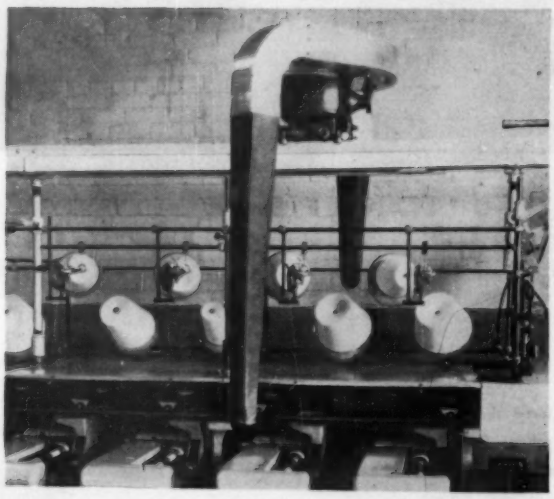
Power Strap Dispenser

Steel strapping is dispensed from a power-driven unit developed by Signode Steel Strapping Co., 2600 Western Ave., Chicago 47, Ill.

The machine feeds strap through the cutter jaws at 6 to 10 ft. per sec. The operator controls delivery with a push-button switch. When the right length of strap has been delivered, the operator releases the switch and cuts off the strap by a stroke of the cutter lever.

The dispenser is ruggedly built to give long service.

Circle T-9 on Reader-Service Card



Lint Cleaner for Winder

An automatic lint cleaner for Model-66 automatic filling winders is available from Foster Machine Co., Westfield, Mass. The traveling device removes lint, neps, and fly during the winding of spun yarns.

Circle T-10 on Reader-Service Card

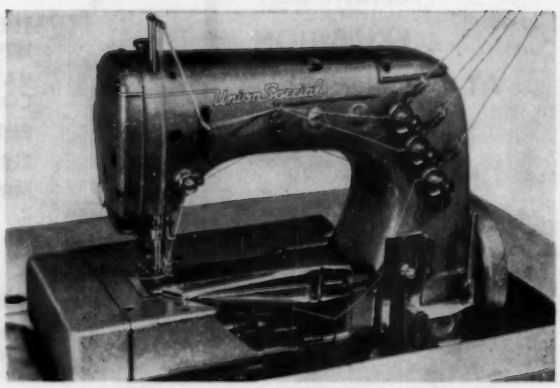
Sewing Machines

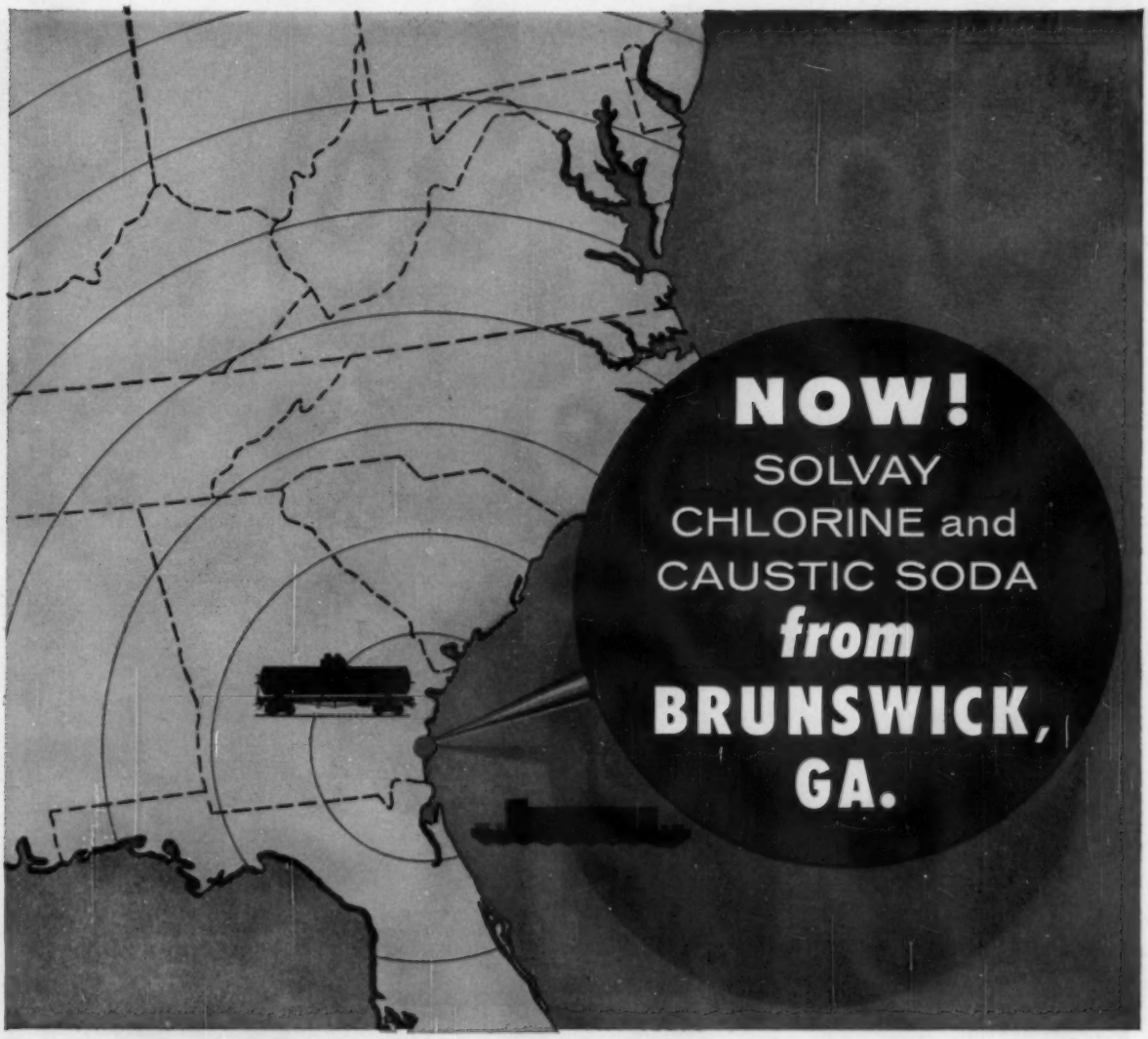
The Class 52800 series of sewing machines has been marketed by Union Special Machine Co., 400 N. Franklin St., Chicago 10, Ill.

The series includes seven styles producing the two-needle, four-thread Type-602 interlock stitch and four styles producing the three-needle, five-thread Type-605 interlock stitch. Principal uses are in the manufacture of knitted underwear.

Production is rated at 14% higher than superseded models. Refinement of parts and needle bearings on the rocker shaft permit speeds to 5,000 rpm. Automatic lubrication is standard on all models.

Circle T-11 on Reader-Service Card





Newest Solvay plant means lower costs . . . faster service for Southern users

The addition of Brunswick, Ga. as the newest of SOLVAY'S strategically located production centers results in quicker deliveries and lower freight rates for Southeastern chlorine and caustic soda users. Liquid caustic soda will be shipped in tank cars and barges, liquid chlorine in single-unit tank cars. Your nearest SOLVAY branch office will give you information on deliveries from this new SOLVAY source.

Aluminum Chloride • Vinyl Chloride • Sodium Nitrite Potassium Carbonate • Calcium Chloride • Caustic Potash Snowflake® Crystals • Sodium Bicarbonate • Soda Ash Ammonium Chloride • Methylene Chloride • Caustic Soda Monochlorobenzene • Ammonium Bicarbonate • Chlorine Carbon Tetrachloride • Methyl Chloride • Chloroform Cleaning Compounds • Para-dichlorobenzene • Hydrogen Peroxide • Ortho-dichlorobenzene

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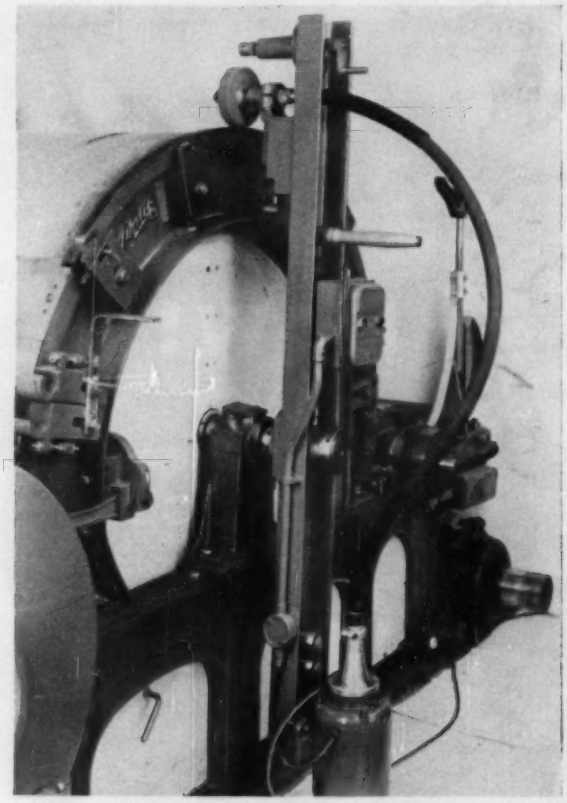
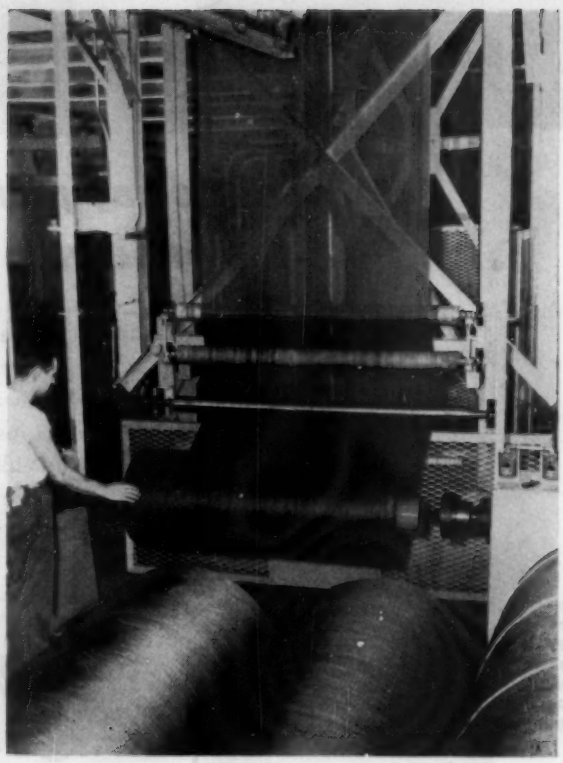


Card-Surface Grinder

A grinding machine for truing adjustable curved surfaces of cards has been announced by Dronsfield Bros. Ltd., Oldham, England. The grinder is attached to the cylinder shaft so that the curves are ground radially accurate with the cylinder surface. After grinding, flats move easily and wear evenly.

The machine is equipped with a diamond tool for redressing the grinding wheel. Grinding time is ½ to 1½ hrs. for each adjustable surface. On some cards, it is necessary to use a set of flat brackets that have been cut down to allow the wheel to pass.

Circle T-12 on Reader-Service Card



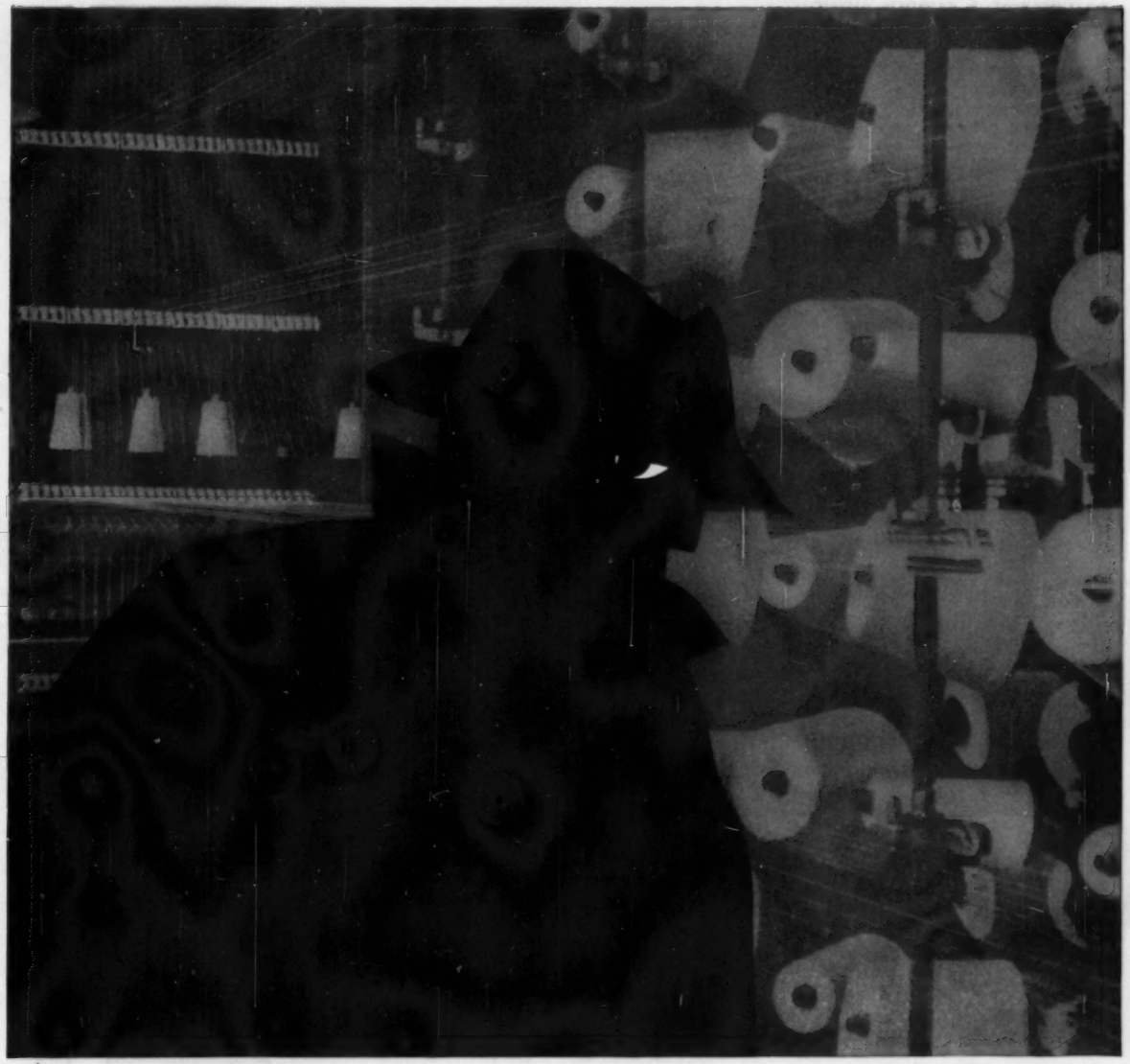
Expanding-Aligning Unit

The principle of the curved-axis roll is used to control fabric width and alignment in a machine developed by C. A. Litzler Co., Inc., 1817 Brookpark Rd., Cleveland 9, Ohio.

The expander was designed to work on open-weave fabrics such as tire cord and overcomes crowding, uneven windup, and creases.

The bowed rolls are split in the center so that the bowing of either side may be controlled to suit the conditions at hand.

Circle T-13 on Reader-Service Card



DON'T SWINDLE YOUR SPINDLE

Don't swindle your spindle out of adequate lubrication in your search for a clear lubricant to eliminate staining problems.

A good lubricant must not only be clear, it must also minimize friction and hold down power consumption . . . for power already accounts for 10% of the average mill's product selling price.

Cities Service has the answer to both these requirements. Each of the seventeen specially tailored Cities Service Glade Oils have unsurpassed clearness and can actually reduce friction as much as 25%. In terms of mill profits, that's an added 2½%!

If you'd like to learn more of the many ways in which you profit with Cities Service Glade Oils, write Cities Service Oil Company, Sixty Wall Tower, New York 5, N. Y.

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

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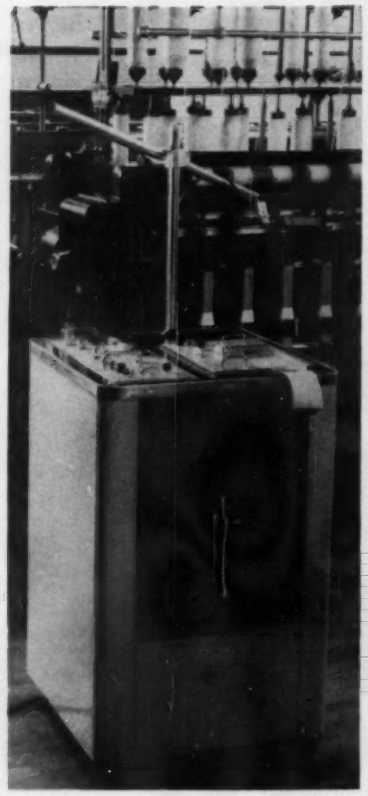


Recording Tensiometer

The high-speed recording tensiometer for measuring yarn tension, developed by Celanese Corp. and manufactured by Custom Scientific Instruments, Inc., Arlington, N. J., will be sold exclusively by Uster Corp., Wilkinson Blvd., Charlotte 8, N. C.

The instrument, which can be used in spinning, winding, warping, and other yarn-preparation processes, has a frequency response to 120 cycles per second and a sensitivity to 4-mm. deflection per gram of tension on a standard direct-writing recorder.

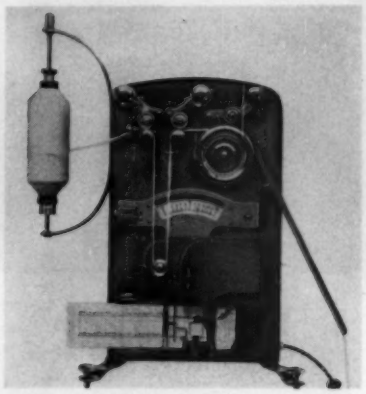
Circle T-14 on Reader-Service Card

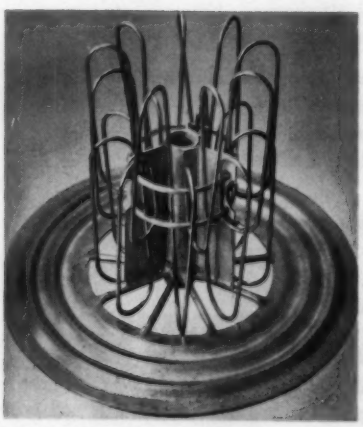
Roving Tester

The Resistiro-Rex roving tester, manufactured in France by Paul Litty, is now being sold in the United States by Stellite American Corp., 60 E. 42nd St., New York 17, N. Y.

The machine is used to test cotton and synthetic rovings for drafting evenness and resistance, correct twist, correct tension, and proper flyer settings.

Circle T-15 on Reader-Service Card





Rayon-Cake Spring Tube

Radia 11/T rayon-cake spring tubes, introduced by R. & J. Textile Corp., 45 Carlton Ave., Carlton Hill, N. J., has more than 30% radial spring action of the tube body.

Cakes of different inside diameters can be used. The swelling of rayon, cotton, and wool can be absorbed without any yarn losses.

In dyeing rayon or nylon, a spacer ring is placed over the spring tube. This tube forms an outer-ring diameter of the tube that corresponds to the inner diameter of the cake or bobbin.

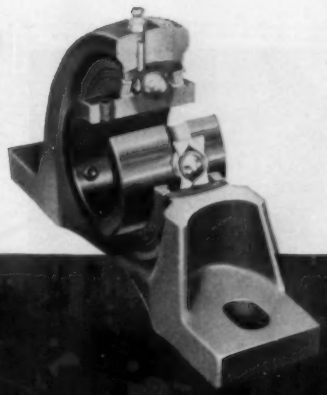
During the wet treatment of bobbin cakes of cotton and spun rayon, the spacer ring is not required. The spring tube can receive the yarn in a dry state.

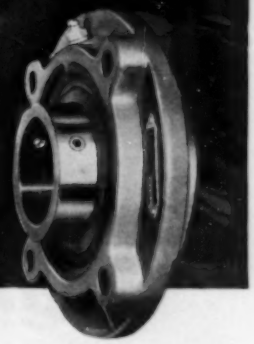
The great permeability of the tube assures short dyeing and drying time. The device is adjustable in height with spacer tubes.

Cakes are placed on the tubes by a funnel, which is placed over the tube to hold it to its smallest diameter. The cake is placed over the funnel onto the tube without damaging the inner yarn surface.

Circle T-16 on Reader-Service Card

...for a new Textile Machine going into production or expanding Textile Production to meet growing demands–





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As an industry consuming approximately one-tenth of all the nation's horsepower and a top ranking user of electric motors and major machinery—the textile industry has become a business of precision. Where twenty years ago anti-friction bearings were used comparatively little, today precision bearings are a vital necessity.

SEALMASTER factory representatives and distributors have been working hand in hand with machinery manufacturers and mill operators in development of new and rebuilding of existent textile machines.

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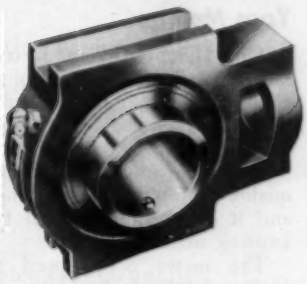

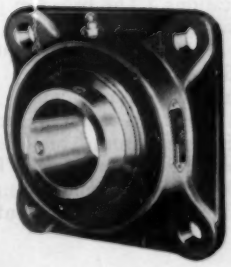

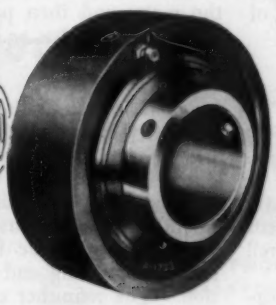

Write for Bulletin 454. It's a must for your file.

SEALMASTER BEARINGS A DIVISION OF STEPHENS-ADAMSON MFG. CO. • 10 RIDGEWAY AVE., AURORA, ILL.

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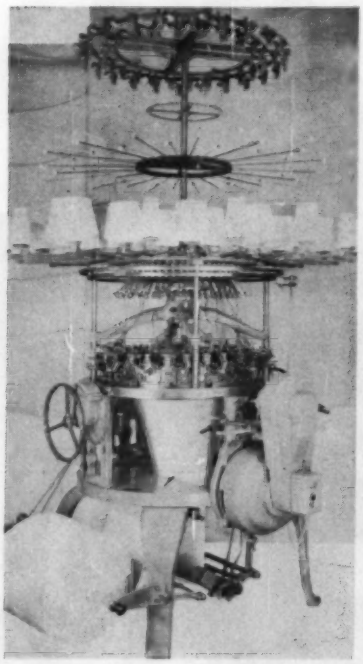


Interlock Machine

Model MFRC is a new multifeed interlock knitting machine built by Scott & Williams, Inc., Laconia, N. H., to knit sweater fabrics with rib cuffs. The machine is available in 10- to 24-cut 30-in. cylinders with 30 feeds.

The speed is 23 rpm. through the complete garment lengths. Hourly production is 41 sweater strips per hour separated by draw threads, and natural and synthetic yarns can be knitted.

The rib cuff may be varied in weight by placing heavier or lighter cuff yarns on the machine. Different types of yarn may also be knitted at the cuff. The yarn stand holds 46 cones.

The yarn changer uses a pinion-and-rack mechanism to provide a positive motion in two directions without a spring return. The swivel cams operate from a welt to a knit position to overcome drop stitches, and they are activated by the yarn changers.

The yarn-changing unit can be interchanged, and it can be quickly removed. Four or more antiravel welt courses can be made. Four adjusting screws provide four different stitch settings in one cycle.

The control mechanism has a jacking pawl that operates around the center to give smooth easy action. Two bearings hold the vertical rods in position. The rods do not engage directly with the chain. A hardened follower mounted on a lever engages the chain, and the rods operate on the follower. The rods have springs for positive return.

Once the control completes engaging the units on the machine and makes the required settings, the plates return to a neutral position and eliminate the cam plates continuously hitting the ends of the control levers.

There are three chains to control knitting. The take-up mechanism has rubber-covered rolls. A blank section on the cap and cam ring makes for easy needle changing.

An air-blowing unit blows only at the selvage for two revolutions to reduce seconds. A Veeder-Root counter is fitted on the machine.

Circle T-17 on Reader-Service Card

Yarn Meter

The Hamilton yarn meter, now made by Scott & Williams, Inc., Laconia, N. H., is a sensitive instrument with jeweled Swiss movements to measure up to 1,000 ins. of yarn. The device improves knitted-fabric quality and reduces cloth shrinkage, and it can be used on all types of knitting machines.

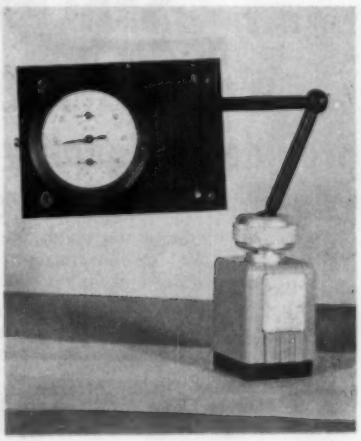
The meter is equipped with a Universal knee to facilitate its use in difficult locations. The base is a permanent magnet and can be placed on any steel or iron surface for quick setting and easy removal.

The yarn is measured while the machine is in normal operating speed. The machine is run from 1 to 10 revolutions for a meter reading. This reading is checked to a predetermined machine calculation of the amount of yarn used each revolution of the machine to produce the desired fabric.

Another method is to set the machine by hand and then use the meter on six or eight feeds. The average reading is taken, and all feeds are set to the average reading.

Many mills keep a record of reading of each setting for each style of fabric. When the style is required, the machine is set to the recorded meter reading to accurately reproduce the original fabric. Some mills use four or more meters at one time on 64-feed machines to reduce the setup time.

The head of the meter is positioned so that the yarn leaving the lower stop motion is partially wrapped around the cylinder in the back of the meter and then passed into the yarn carrier. Little tension is required to drive the cylinder so that the cloth stitch is not changed.



Circle T-18 on Reader-Service Card

Quill Refinisher

A quill refinisher announced by Robert Reiner, Inc., Weehawken, N. J., cleans and polishes up to 30,000 quills per day with no extra labor cost. The refinisher feeds directly from a Model-L or K Terrell stripping machine.

Quills feed straight from the stripping machine into the polisher, and then they are automatically processed and ejected by a small conveyor. Each quill receives three separate operations. The quill surface is smoothed in the first and second stations, and at the final station it receives a waxing and buffing operation. The refinisher can be adapted to perform almost any combination of operations. Any section of the quill may be polished.

The machine has a three-station processing cycle and runs at a capacity up to 23 quills per minute. The materials used by the machine last about 20 hrs. before replacement.

CONTINUED ON PAGE 230

Circle T-19 on Reader-Service Card

Clinton®

starches keep production "ON COURSE"

For smooth sailing in the weave-room, use Clinton starches on every warp-sizing job. They're easily prepared and applied — maintain proper consistency through a wide temperature range. By reducing friction and increasing warp strength, Clinton starches step up weaving efficiency — help keep production runs on schedule.

The finishing operation, too, calls for Clinton's consistently high quality. Clinton has what it takes to give your textiles the "hand" and body that sells. In every mill operation calling for a quality starch product, it pays to set your course with Clinton.

. . . and remember — *technical service in connection with your specific problems is available without obligation*

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NEW DYES and CHEMICALS

Sodium Hydrosulfite

Improved Vatrolite . . . uniform in particle size and easily handled in dry-chemical feeders, is claimed to be instantly soluble and to have a slow decomposition rate. Recommended for reducing vat dyes or for conventional stripping operations where sodium hydrosulfite is indicated. Royce Chemical Co., Carlton Hill, N. J.

Circle D-1 on Reader-Service Card

Vat Dye

Indanthrene Gray GG Extra Double Paste. . . produces greenish-blue grays on cellulosic fibers. Fastness properties are generally excellent. The dye is recommended for pigment padding and for circulation before reduction. General Dyestuff Co., 435 Hudson St., New York 14, N. Y.

Circle D-2 on Reader-Service Card

Direct Dye

Fastusol Blue L6GA. . .gives fast-to-light bright greenish blues on cotton and rayon. Recommended for goods going into resin finishing and for discharge work. General Dyestuff Co., 435 Hudson St., New York 14, N. Y.

Circle D-3 on Reader-Service Card

Antistatic Agents

Elosol . . . is the generic term for a series of antistatic agents of varying properties.

Elosol SG is water soluble, provides a soft hand, and is resistant to rinsing in boiling water but not to washing. An anhydrous version can be added to mineral- or vegetable-oil lubricants for spinning.

Circle D-4 on Reader-Service Card

Elosol V does not affect the hand of the goods and produces an antistatic effect that is resistant to rinsing in boiling water but will not withstand washing. The product will work in oil-in-water emulsion.

Circle D-5 on Reader-Service Card

Elosol VW produces a softening and an antistatic effect and is resistant to washing at 105° F. provided no alkali is present. Sandoz Chemical Works, 61-63 Van Dam St., New York 13, N. Y.

Circle D-6 on Reader-Service Card

Adhesives

Resyn 36-6254. . .recommended for laminating cellulose butyrate acetate to foil, is a rubber-based fluid with a viscosity of 2,500 cps. It may be thinned with methyl ethyl ketone.

Circle D-7 on Reader-Service Card

Resyn 76-3930. . .suggested for the production of boilable acetate-foil laminates, has a viscosity of 500 cps. and is thinned with a mixture of isopropyl acetate and toluene.

Circle D-8 on Reader-Service Card

Resyn 76-39444. . .laminates Mylar or metalized Mylar to foil. The rubber base adhesive has a viscosity of 2,000 cps. and can be thinned with methyl ethyl ketone.

Circle D-9 on Reader-Service Card

All three adhesives may be applied by reserve roll and should be applied to the foil at the rate of 1½ to 2½ lbs. per ream. National Adhesives Div., National Starch Products, Inc., 270 Madison Ave., New York 16, N. Y.

What Is Redox?

Redox is a term coming into more frequent use since the development of instruments that tell the operators of dyeing or bleaching ranges exactly what is going on in the solutions that fabrics are passing through.

The reference is to the reduction-oxidation balance at any given time in some particular chemical solution that is being used to affect the cloth.

As an example, in a continuous dyeing range employing vat colors, along with sodium hydrosulfite, sodium sulfoxylate, or similar compounds, it is important that the reducing agent—the hydrosulfite or sulfoxylate—be present in adequate quantities at all times.

Variations in the amounts of reducing agent present cause shade changes; so it is important that a definite rate of reduction should be maintained.

The most frequently used method of checking these solutions has been to titrate samples of the dye liquor against a solution of known oxidizing power. This method is accurate but discontinuous. Considerable yardage may flow through a dyeing machine before the titration and correction can be completed.

The redox method depends upon continuous measurement of the electrical potential between a saturated calomel electrode and a platinum electrode. When these electrodes are immersed in the dye solution to be tested, the potential in millivolts is indicated continuously by the redox instrument.

Satisfactory conditions are set up for each dye formula, based on previous experience and by chemical evaluation. Repeat runs can then be made according to the millivolt range that has been found most effective.

As an example, an indigo vat may work best in the range of 720 to 850 millivolts. Because pH measurement is accomplished in a similar manner, it is important that the pH of a solution be kept constant while redox measurements are being made.

The redox measurement indicates the oxidation-reduction ratio of the dyebath.

Continuous adjustment of the chemical content of the bath can be correlated with redox measurements to maintain tone and depth of shade. Redox is a supplement to good judgment on the part of the dyer but does not replace it.

Redox measurements are also useful in bleaching solutions where oxidizing potential is the main factor and uniformity of oxidizing power is as important as the reducing power of a dyebath.

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STANDARD'S PRODUCTS

A complete line of efficient processing and finishing agents for all fibers

PYROTEX

Neutral scouring and dyeing agent for wool, worsted, cotton, rayon, acetate, and synthetic fibers.

RETARDINE

For level dyeing and stripping of vat, sulfur, and direct colors.

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***New* dye fixatives to improve fastness to light, washing, crocking, and perspiration.**

STANTEX PENETRATOR

Surface active agents effective in acid, alkaline and salt solutions, for dyeing, fulling, carbonizing, mercerizing, finishing and sizing.

SANFOROL

Sanforizing agents with efficient wetting, rewetting, lubricating, and softening properties.

STANDAPOL

Sulfonated oils for finishing, softening, throwing, sizing, and emulsifying.

STANTEOSINE

Substantive softener, with anti-static properties, for natural and synthetic fibers.

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Durable and semi-durable finishes designed to impart a full range of body, hand, and drape for all fabrics.

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Resin products that impart a durable crease and shrink resistant finish.

STANDARD CHEMICAL PRODUCTS, Inc.

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QUESTIONS and ANSWERS

Do you need help on a technical problem? TEXTILE WORLD is at your service in helping solve problems in yarn manufacturing, weaving, knitting, dyeing, finishing, and other textile operations. A large staff of mill men, consultants, and other experts are available for authoritative answers. Send your problem to the Editor, Questions and Answers, TEXTILE WORLD, 201 E. Coffee ST., Greenville, S. C.

Fiber Cross Section Determines Spinnability

Technical Editor:

We have been using, with success, the rule from TEXTILE WORLD's 1956 Fact File issue that the number of fibers in a yarn cross section should be no fewer than 88 in spinning 1½-in. rayon on the cotton system. Do you have a guide for 3-in. fibers? (9999)

There is no one figure for the number of fibers of different deniers, nor is there a single figure for fibers of different lengths in the various deniers. As the fibers get coarser, the minimum number of fibers per yarn cross section also increases. If the length of a given denier is increased, the number of fibers per cross section can be decreased.

Some spinners consider 88 fibers a little on the high side absolutely necessary for good spinning and good yarn quality. Much depends on the fiber denier. Yarns using fairly coarse deniers like 5.5 den. must have at least 80 fibers for reasonable spinning and should have 100. However, 3-den. fibers can generally be spun with 70 fibers as a minimum; 1.5-den. fibers can be spun with 65 fibers, and 1-den. fibers require only 55 fibers per cross section.

These figures apply to spinnability and not necessarily to weavability as warp yarns. These figures can be used for filling purposes. The 3- and 5.5-den. fibers are based on 2-in. lengths, and the 1- and 1.5-den. fibers are based on 1⅞-in. length.

An increase in staple length of ½ in. generally gives about a 10% increase in the fineness of the yarn that can be spun, as shown in the table below.

Denier	Staple length (ins.)	Yarn No. Warp	Yarn No. Filling	No. of fibers Warp	No. of fibers Filling
1.5	1 9/16	40/1	50/1	89	70
1.5	2	45/1	55/1	80	65
3.0	1 9/16	20/1	24/1	89	74
3.0	2	22/1	26/1	80	68
3.0	2 1/2	24/1	28/1	74	64
5.5	1 9/16	10/1	10/1	97	97
5.5	2	10/1	12/1	97	80
5.5	2 1/2	10/1	14/1	97	69
8.0	1 9/16	8/1		83	
8.0	3	10/1		66	
15.0	3	5/1		71	

Buff Squeeze Rolls To Get Correct Density

Technical Editor:

What type of buffing wheel is used on slasher rolls to raise the density? (1266)

One mill uses a Simonds WA36H16 buffing wheel every six months on composition rubber squeeze rolls. After running for a period, the crust or skin that forms on the outside of the roll is buffed until the required density is reached.

Four Tips To Improve Seed-Yarn Weaving

Technical Editor:

We are having trouble weaving ratine and seed yarns. We've reduced the speed of our looms to 143 ppm. with no success. Do you have any suggestions? (1265)

Ratine and seed yarns are tough to weave, but here are four tips that might help you:

1. Try a reed with greater air space. These reeds give more space for the slubs to pass through. Made from the new steels, they're more elastic to bend for the slubs and recover their shape quickly.

2. Reduce the over-all size of the warp shed. The slubs are then positioned nearer the center of the reeds where the reeds are more flexible. If the ratine styles are to be run for a long period, you might even go to a smaller shuttle and filling package to reduce the size of the warp shed. Quilling and batteryhand costs are cheaper than loom stops.

3. Be sure your let-off is letting off consistently. If it's holding up for several picks and then letting off fast in such a way that wavy cloth would be made on a regular weave, you're getting undue strain on the yarn and excessive breaks.

The warp tension should be fairly light. Of course, you must have a firmly formed shed, but excessive tension breaks the slubs at the reed. Maybe some tests on warp tension with a tensiometer would help in arriving at the best tension.

Put 0.25% Oil on Cotton

Technical Editor:

How much oil should be sprayed on cotton to give us the best results? The stock is sprayed in the first opener feeder. (1262)

The amount of oil sprayed on cotton should not exceed 0.3% of the weight of stock fed. Excess oil will cause loading of the card cylinders and doffers. Many tests showed an average of 0.27%, which we feel is near enough to prevent trouble in processing. We recommend 0.25% or 4 oz. per 100 lbs. of cotton.

Yarn No. 20s — Variation in Yarn Number

Observation	Test No. 1			
	Yarn No. (m)	Deviation plus (d+)	Deviation minus (d−)	Deviation squared (d^2)
1	19.84		0.13	0.0169
2	19.76		0.21	0.0441
3	19.76		0.21	0.0441
4	19.53		0.44	0.1936
5	20.08	0.11		0.0121
6	20.16	0.19		0.0361
7	20.12	0.15		0.0225
8	20.45	0.48		0.2304
9				
10				
Totals	159.70	0.93	0.99	0.5998

Average or mean	19.97
Total deviation	1.92
Average deviation from mean (ad)	0.24
Average deviation of mean (AD)	0.086
Standard deviation (SD)	0.273
Coefficient of variation (CV)	1.4%
Percentage irregularity	1.2%
Maximum variation	4.6%

How To Calculate Yarn-Weight Difference

Technical Editor:

How can we calculate the weight percentage irregularity of our 20s yarn? (9995)

A typical form used to calculate percentage irregularity is shown above. This form also shows the coefficient of variation and other useful data.

The test results of an actual 20s yarn are illustrated on the form. These results are typical for this yarn and could be used as a target.

$$\text{Mean} = \frac{\Sigma m}{N}$$

$$\text{Total deviation} = \Sigma d^+ + d^-$$

$$\text{ad} = \frac{\text{total deviation}}{N}$$

$$AD = \frac{ad}{\sqrt{N}}$$

$$\text{Standard deviation} = \sqrt{\frac{\Sigma d^2}{N}}$$

$$\text{Coefficient of variation} \quad \frac{SD \times 100}{\text{Mean}}$$

$$\text{Percent irregularity} = \frac{\text{ad} \times 100}{\text{Mean}}$$

$$\text{Percent maximum variation} = \frac{(h-l) \times 100}{19.97}$$

Where Σ = summation or sum of
N = number of observations
m = value of individual observations
d = difference between observation and mean
h = highest observation
l = lowest observation

Why Gauge Is Based On Needles Per 1½ Ins.

Technical Editor:

Why are full-fashioned knitting machines based on the number of needles in 1¼ ins. of needle bar? (1264)

The first knitting machines built were hand frames, which are full-fashioned machines. Two needles were cast in one lead, and the leads were clamped to the needle bar by a 3-in. plate.

The operators of these frames, who were called stockingers, based the gauge of their frames on the number of leads that one 3-in. plate held. This gauge is the same as the number of needles in 1¼ ins.; and we've still clung to the same system although needles for full-fashioned hosiery have not been cast in leads for years.

Check Width of Roving-Frame Tubes

Technical Editor:

In changing our roving frames from a coarse to a finer roving, we have a greatly increased end breakage. Most of the trouble seems to be in the hollow legs of the flyers. What would cause this increase in end breakage? (9989)

If the tubes of the flyers are clean and smooth all the way down to the presser foot, the trouble is probably due to the width of the slot in the tube. While the width of the slot may be suitable for the coarser roving, it may be too wide for the finer roving. The finer roving has a tendency to fly out of the slot, and the pinching action is enough to break the end.

Gauge the width of the slot and compare it with the following table of sizes that have been used with good results in some mills. If the widths are excessive, we would advise you to have the slots closed slightly.

Width of Roving-Frame Flyer Tubes

Hank roving	Size slot (in.)
0.50	0.034
1.00	0.024
1.50	0.020
2.00	0.017
3.00	0.014
5.00	0.011
6.00	0.010
7.00	0.009
8.00	0.008
9.00	0.008
10.00	0.008
12.00	0.007
14.00	0.006
16.00	0.006

Humanics — A TW Brief

Stress Self-Interest For Good Job Performance

It's often useless to appeal to employees to do something "for the good of the company." Much better results can be obtained when the individual is shown how he will benefit personally.

When a change in process or procedure is announced, the smart supervisor shows his employees how the change will be better for them. He will point out such advantages as more pay, easier work, or increased prestige instead of citing savings or more efficient operations for the company.

ACRYSOL GS

Fabric backings go on easy and last long

A little bit of ACRYSOL GS thickener goes a long way in improving the backing of carpet and upholstery fabrics. First off, application is easier because ACRYSOL makes compounds unusually smooth in texture and exceptionally stable in viscosity. Secondly, the backing itself is better. That's because ACRYSOL GS provides a smooth coating with excellent resistance to aging, dusting, and unusual uniformity in application.

ACRYSOL GS is so widely compatible and such an efficient thickener that it can be used with many resins, latex emulsions, and filler ingredients. For still other backing systems, two new thickening agents are also available. ACRYSOL ASE-60, a non-linear thickener, provides high viscosity in small concentrations. ACRYSOL ASE-75, a linear thickener, is especially suitable for GRS rubber.

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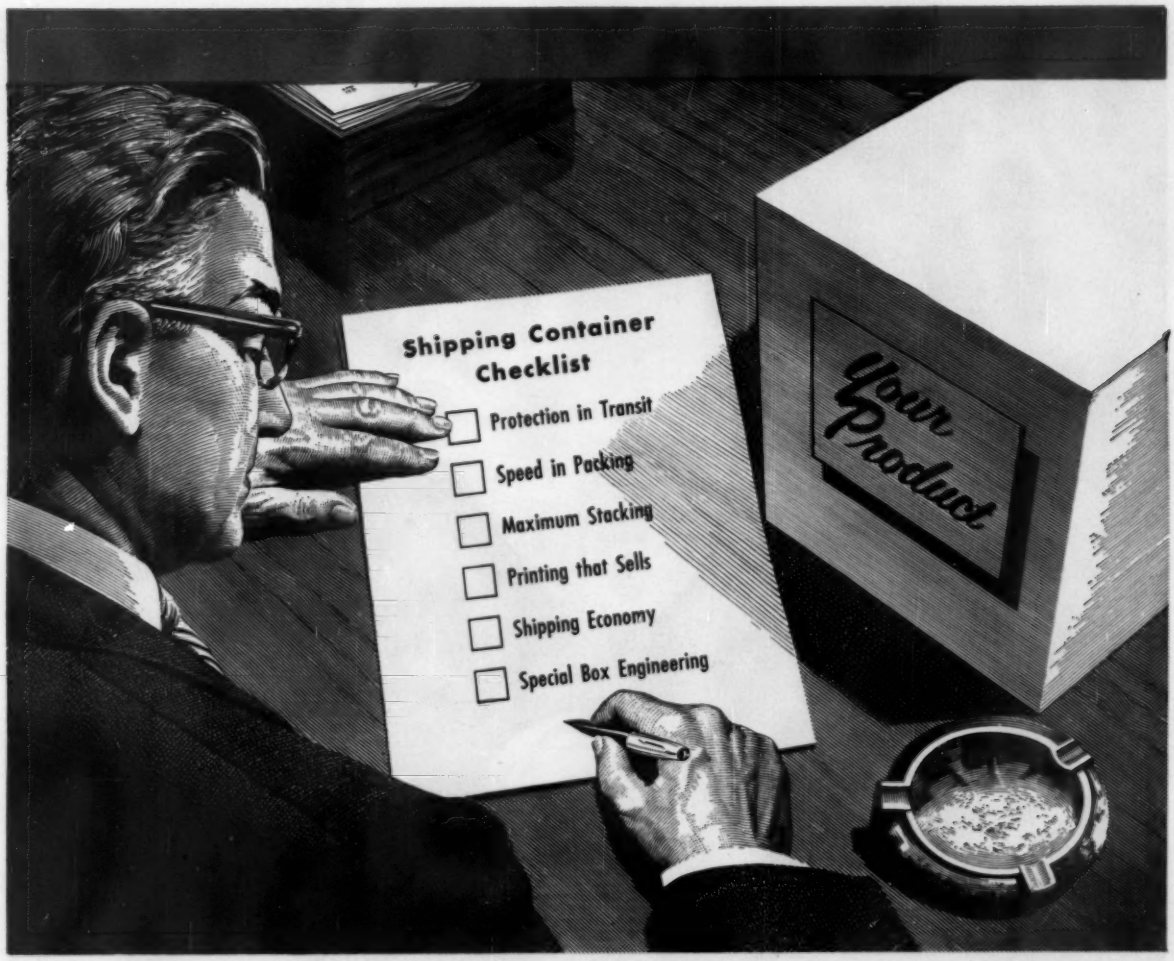

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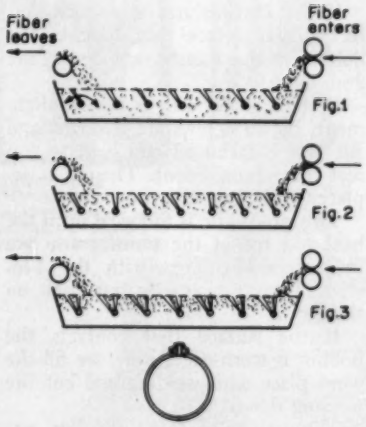
KINKS and SHORT-CUTS

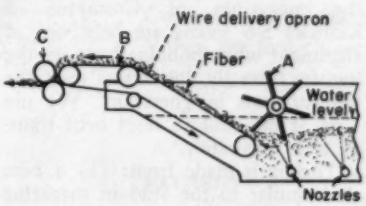


DETAIL OF PIPE AND NOZZLES

Directed Liquor Flow Improves Loose-Fiber Wash

We built a loose-fiber scouring, neutralizing, and washing machine recently that depends upon directed flow of the liquor to produce good results.

As shown in the sketch, the scouring or other liquor is discharged through nozzles placed near the bottom of the scouring vat. The nozzles are mounted on rotatable pipes so that the currents set up by the liquors pumped through the nozzles can be directed to suit the process. The variation covers an angle of 120°. Compressed air can also be forced through the nozzles to set up currents in the treating solution.



DETAIL OF DELIVERY SYSTEM

At the start of the operation, the currents are directed to produce good distribution and a thorough rolling over of the stock in the vat as in Fig. 1. Partial retention is accomplished by directing the nozzles as in Fig. 2. In Fig. 3, the nozzles are set to distribute and retain the stock.

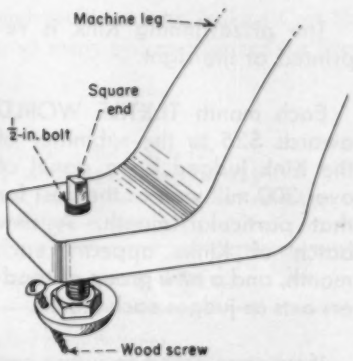
When the processing is finished, the nozzles are tilted to produce currents that direct the stock toward the wire delivery apron *B*. The driven wheel *A* guides the stock onto the apron, which delivers the stock to the nip rolls *C*.

The scouring machine does a good job on all fibers not over 1¼ ins. long, although it was primarily designed for preparing surgical cotton. (K-3334) *Teodoro S. Bardon, Buenos Aires, Argentina.*

Use Two-Ply Filling To Start New Warp

We had a lot of trouble caused by cloth tearing and splitting when a new warp was started. Often the cloth would have to be pulled over the take-up roll, and much waste resulted.

Now we use two-ply filling to start new warps, and splitting of the cloth has been eliminated. Since only a few inches of cloth are woven with the two-ply filling, waste is greatly reduced. (K-3252)



Here's a Better Way To Level Knitting Machines

Circular knitting machines are usually leveled with pieces of cardboard or blocks of wood pushed under the legs that need raising. These materials often pack down or come out, and the original setting is lost.

Here's how to build a leveling device into the machine that can easily be adjusted to any condition and yet retain its adjustment. First, make the hollow bottom of the leg solid by welding. Drill and tap a ½-in. hole through the solid part of the leg. Screw a ½-in. bolt 3 ins. long into the tapped hole, letting the rounded head protrude at the bottom.

Drill a ¼-in. hole in the head of the bolt for a wood screw to lock the machine in position after it has been leveled. If the bolt has flats below the head, you can adjust the machine with the flats; or you can square the part of the bolt that projects above the leg to fit a wrench. The machines can be easily moved on the bolt heads that serve as casters. (K-3097)

December Prizewinning Kink

The best Kink published in the December issue of TEXTILE WORLD, according to our reader-judges, was:

"Jig Aligns Transfer Arms in C&K S-6 Looms"

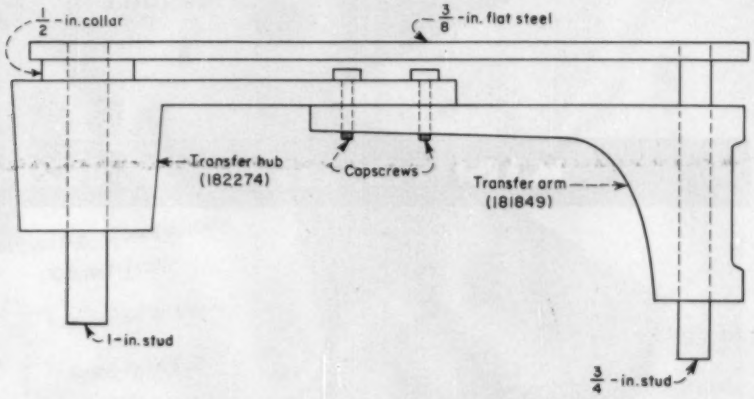
By Charles R. Batzer
Lancaster, Pa.

The winner is being sent a check for $25 with the compliments of TEXTILE WORLD.

The prizewinning Kink is reprinted at the right.

Each month TEXTILE WORLD awards $25 to the submitter of the Kink judged by a panel of over 300 mill men as the best for that particular month. A new batch of Kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best Kink by sending back your answers in time for final tabulation. Closing date for judging is the last day of the month in which the Kink appears.



Jig Aligns Transfer Arms on C&K S-6 Looms

The transfer arms (hammers) on the magazines of Crompton & Knowles S-6 looms are bent out of alignment when bobbins hang on the transfer. Usually, loomfixers reset the transfer arms by guesswork. We use a jig at our mill to reset bent transfer arms accurately.

The jig is made from: (1) a 1-in. stud similar to the stud in magazine support for transfer hub, (2) a stud 7 ins. long and ¾ in. in diameter, (3) a strip of flat steel ⅜ in. thick, and (4) a transfer hub (C&K Catalog Part 182274).

The two studs are mounted in holes drilled in the strip of flat steel, as shown in the sketch looking down. The transfer hub is slipped over the 1-in. stud and pressed against the ½-in. collar.

To use the jig, a bent transfer arm (181849) is fastened to the transfer hub with two ⅜x⅞-in. capscrews, just as the transfer arm is fastened in a loom.

If the transfer arm is aligned correctly, the surface that touches the bobbin at the transfer will touch the ¾-in. stud.

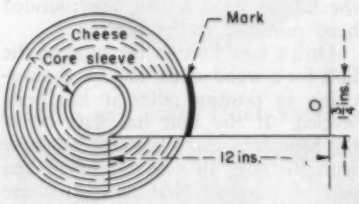
If the transfer arm is out of alignment, the capscrews are removed and the arm is taken off and bent to correct the misalignment. Then it is replaced and checked again.

This procedure is followed until the heel and toe of the transfer arm are in perfect alignment with the ¾-in. stud. Then the arm is put back on the loom.

If the surface that contacts the bobbin is worn excessively, we fill the worn place with welding and cut the welding down.

The results of using the jigs are: transfer arms stay in good condition, magazines transfer filling without hanging or breaking bobbins or shuttles, and yarn is not cut on the bobbins. Now weave-room efficiency is higher. (K-3186) *Charles R. Batzer, Lancaster, Pa.*

Gauge Measures Cheeses While Spooler Is Running



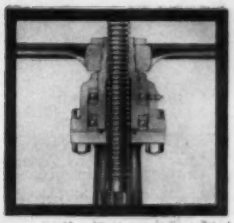
In making small cheeses for sample purposes on the Barber-Colman automatic spooler or tailing machine, it is desirable to have a gauge for measuring each cheese so as to get the same yardage on each one. A simple but effective gauge for this purpose can be made easily from ¼-in. plywood. Or you may prefer to make a lighter-weight gauge from thin sheet metal.

To calibrate the gauge, make a sample cheese of the correct yardage and place the concave end of the stick against the core sleeve. Then mark the stick where it crosses the outer edge of the cheese.

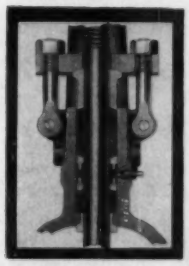
Check the size of cheeses being made by placing the gauge in the position shown. When the outer edge of the cheese coincides with the mark on the stick, the cheese is of the correct size.

A big advantage of the gauge is that it can be held against the side of the cheese while the machine is running.

The gauge also can be calibrated for measuring full-size cheeses at the spooler. (K-3079)



BALL BEARING YOKE SLEEVE
Standard on larger sizes of all 300, 400, and 600 psi Cast Steel Valves, it permits easy opening and closing of valve.



LANTERN GLAND STUFFING BOX
Furnished in valves when specified, it provides a cooling or test chamber.

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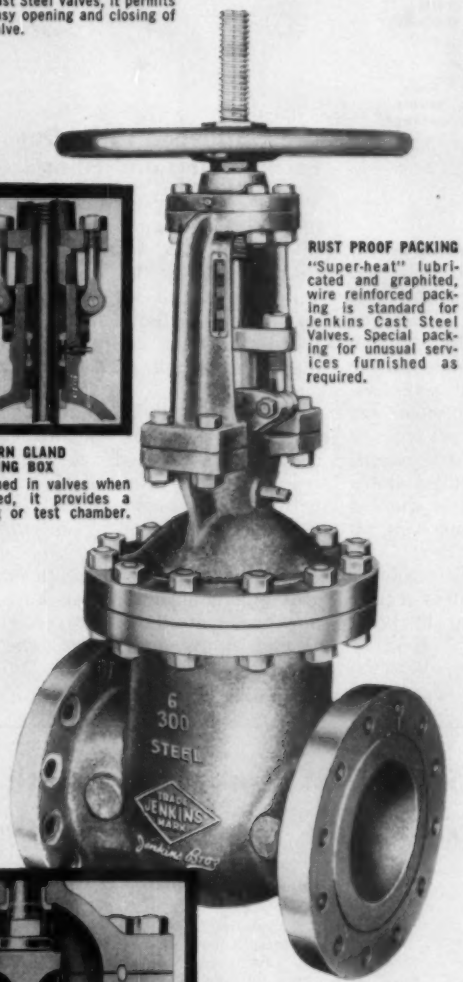

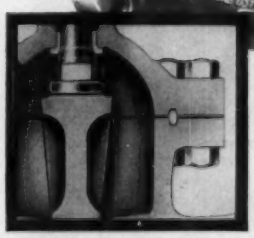

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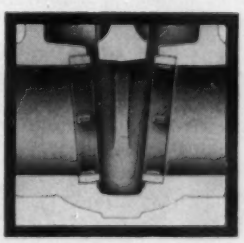

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Wedge lifts out of flow when valve is full open, permits free, unobstructed flow.

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PATTERNS	Gates 2" to 24" — Globes 2" to 10" — Angles 2" to 10" — Swing Checks 2" to 12". Non-return, stop and check Globes and Angles, 4" to 10" Screwed, Flanged, or Weld Ends
PRESSURES	150 lb. — 300 lb. — 400 lb. — 600 lb.
PRESSURE CASTING ALLOYS	Carbon Steel — 150 lb. Valves Carbon Molybdenum Steel — 300, 400, 600 lb. Valves Chromium Molybdenum Steel (when ordered)
SEATING METALS (in various combinations)	H Monel 13% Chromium Stainless Steel Carbon Molybdenum Steel, Stellite faced AISI Type 316 Stainless Steel

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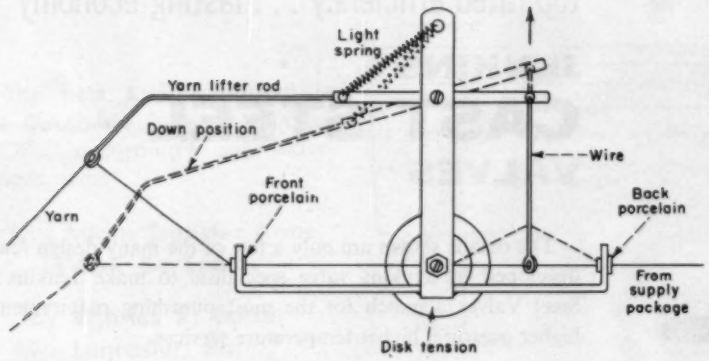


Relieve Drag on Yarn With a Tension Device

One of the biggest problems in textile manufacturing is the control of tension as yarn is wound from cones and other supply packages. Different degrees of tension cause unevenness in the cloth. When yarn is poorly wound, the trouble is accentuated and holes and press-offs may result.

Here's an easy-to-make device that relieves the drag on the yarn:

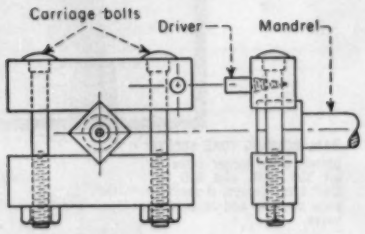
Fasten a disk tension on a bracket between two porcelain eyes. Drill a hole in the tension upright bracket, and attach a yarn lifter rod with a shoulder screw so that it will rock up and down.

Fit a light tension spring from the yarn lifter rod to counteract the pull of the yarn. Fit a porcelain eye at the feed end of the lifter rod, and attach a wire to the back of the lifter rod. When a porcelain is fastened to the end of this wire, the porcelain should be in a direct line between the disk tension and the rear porcelain.

As the yarn flows through the porcelain and disks, there will be little resistance. When a drag occurs, the lifter rod will be pulled down and the wire at the back of the rod will be lifted to pull more yarn off the cone and relieve the drag.

Circular-hosiery knitting machines have tension arms that would require only a little modification to bring this idea into practice. (K-3219)

H. J. Haas, Martinsburg, W. Va.



Use Hardwood Lathe Dog For Polishing and Filing

The lathe dog in common use is often provided with a long setscrew to bring it into closer balance. But the position of the setscrew varies with the size of the mandrel used; and when the lathe is changed to high speeds for filing and polishing, the dog vibrates and needs counter-balancing.

We overcome the trouble on our small work by using hardwood lathe dogs, as shown in the sketch. This type of dog is also suitable for use with ordinary mandrels that have a flat place on the end to prevent slipping in the dog.

For quick-change work with various grits of sanding drums, we leave the dogs on the drum mandrels. (K-3138)

Walter A. Simond, Essex Junction, Vt.

$500 for Best Kink in 1957 - - - $25 for Best Kink Each Month

Plus $5 to $10 for Every Kink Accepted

What Is a Kink?

Any idea that will

- Cut costs
- Improve quality
- Reduce work
- Increase production
- Make work easier

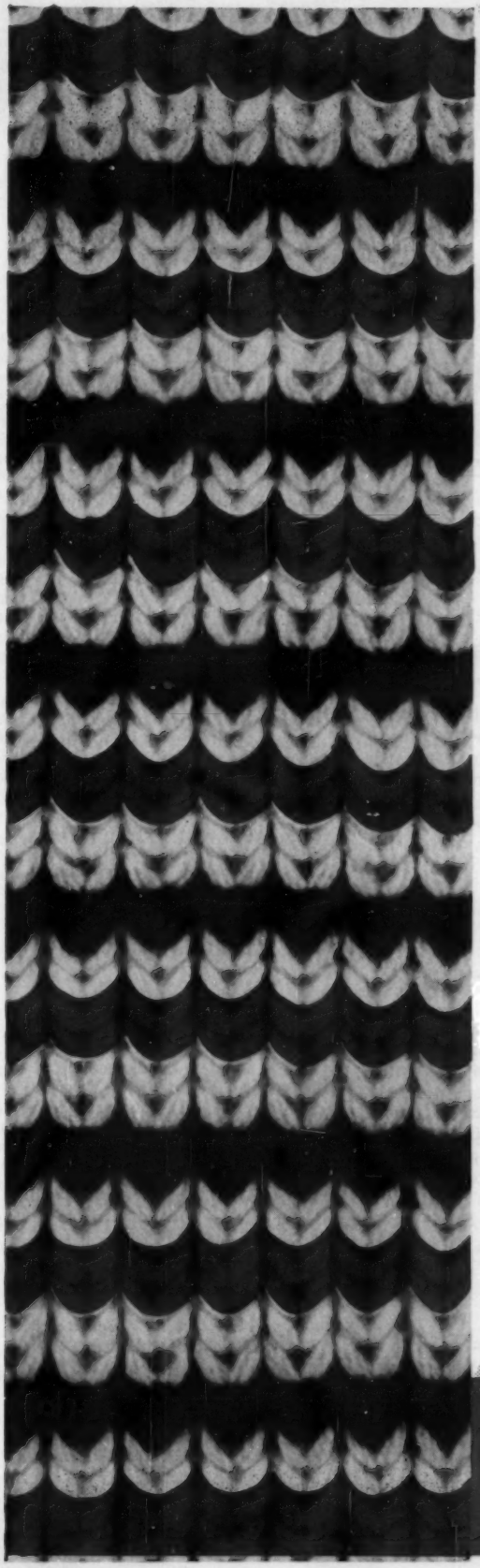
The idea may be one for improving machines, some attachment for a machine, a short-cut way of doing something, a labor-saving device—any idea at all that helps a mill man run his job better or easier.

Send in your Kink now. There is always a contest going on.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to Kinks published that month, yearly to those published in calendar year 1957.
3. All Kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to Kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 300 will be asked to select preferred Kinks in each issue. Their votes will select the best Kinks, and their decision will be final. In cases of ties, duplicate prizes will be awarded.

Send Kinks to:
KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.



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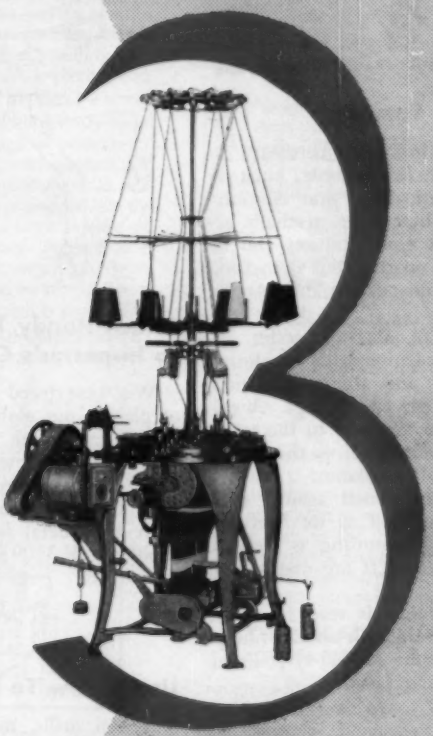

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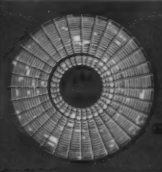

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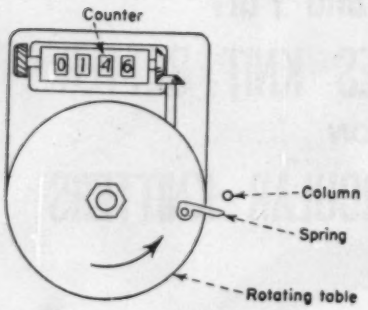


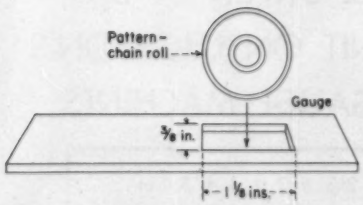
Count Tests Easier

Manual counting is necessary in running many textile tests, such as fineness-determination and hosiery-snag tests. These tests normally require constant concentration and silence, but we worked out a method so that we could talk while doing the work.

We took an abrasion tester, although any machine with a rotating table will do, and attached a small flat spring to the table's edge. A column was mounted close to the table, and as the table revolves the spring clicks against the column.

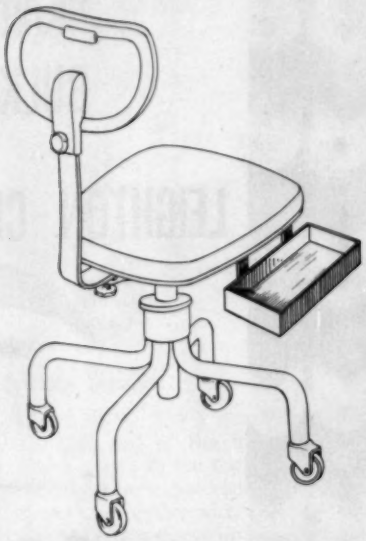
We put our pencil against each item to be counted as we hear the click. If faster counting is needed, two or more objects are counted at once.

The final result is read from the counter. Tapping with one foot helps keep the rhythm. (K-3114) *J. Friedlander, Jerusalem, Israel*



Chain-Roll Gauge Reduces Mispicks

Mispicks are often caused by worn chain rolls on C-4 looms. A gauge can be made to detect these worn rolls by cutting a ⅜x1⅛-in. hole in a piece of sheet plastic, wood, or metal. The worn rolls will pass through this opening, but the good ones will not. (K-3136)



Attach Handy Tool Box To Inspector's Chair

We were faced with the problem of placing our cloth inspector's pads, pencils, and tools within easy reach but where they would not interfere with normal movements. A small box fastened to the inspector's chair with two metal brackets solved the problem. (K-3109) *Dan Singer, Newton, Mass.*

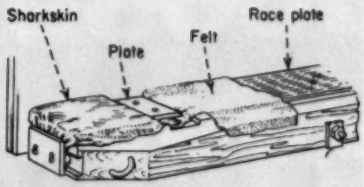
Use Tallow To Protect Tools

When drills, milling cutters, and tools with sharp cutting edges are stored, the edges often rust and render the tool useless.

To protect the cutting edges of tools or other small objects susceptible to rust, dip them in molten tallow. The tallow can be removed without harming the tools by melting it at a low temperature. (K-3145) *W. E. Warner, Essex, England*

$5 to $10 for any Kink accepted for publication. Each one will be entered in the $25 and $500 prize-winner contest.

Send in your Kink now.



Sharkskin Race Plates Last a Long Time

We cover the race plates on our Crompton & Knowles S-6 looms with felt to protect the warp yarn when we're weaving filament fibers. When a shuttle box hangs, the felt is often damaged at one end. The felt also wears out rapidly at both ends.

To eliminate this excessive wear, we substituted sharkskin leather for the felt on each end of the lay. Felt is still used under the warp, but it ends at the plates that hold the cloth covering on the race plate.

The same plates and screws hold both the sharkskin and the felt to the race plate. The two pieces of sharkskin are held at each end by the clamps.

The sharkskin lasts indefinitely, and consequently the felt does not have to be replaced often. All our looms are equipped with the sharkskin; and some of the sharkskin has been running for three years, 24 hrs. per day, five days per week. (K-3155) *Charles R. Batzer. Lancaster, Pa.*

These Tips Will Help You Check Fluorescent Tubes

Frequently, the fluorescent tube and starter are both replaced when the light doesn't burn. This practice can amount to a lot of waste of good tubes and starters.

When a light goes out or fails to come on when the switch is thrown, there are several possible sources of trouble. Here's what to do:

First, check the starter. Most starters have a little red set in the end, and sometimes all that is needed is to reset the starter. Push the set in, and if it springs back out the starter is all right and has been reset.

If the light still does not burn, swap the ends of the tube. If reversing the tube fails, you might as well put in a new tube. (K-3254)

Using Salt Efficiently

by **INTERNATIONAL SALT COMPANY, INC.**—America's largest producer of salt

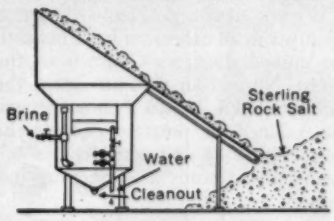
Combining Storage and Feeding Makes Salt Handling Easier

To save both time and manpower in salt handling—many plants have installed salt-storage units which feed directly into a salt dissolver. These units are particularly useful in plants where large tonnages of salt are consumed every day. But even in smaller plants, combination storage and feeding units are proving valuable. This is because they cut down on the amount of floor space needed to store salt.

In plants where floor space is at a premium, salt is often purchased in bags to permit high stacking. Here, too, combination storage and feeding units can produce substantial savings. They permit the purchase of economical bulk rock salt—and reduce salt-handling costs to a minimum.

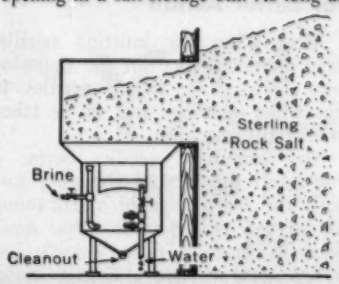
What about one of these units for your plant? Here are six of the most practical designs for combining salt storage and feeding. One of them—or an adaptation of the basic design—may be effective in saving floor space and lowering salt-handling costs for you.

1. Filling dissolver from floor pile. If salt must be stored in bulk on the same floor



as the dissolver (all dissolvers shown here are International's famous Sterling Model Lixator), an excellent feeding device is a portable belt conveyor. The best type for moving salt is made of aluminum with a rubber belt, and is between 16′ and 20′ long. The same conveyor moves salt not only from a floor pile into the Lixator, but also from a car or truck into the plant.

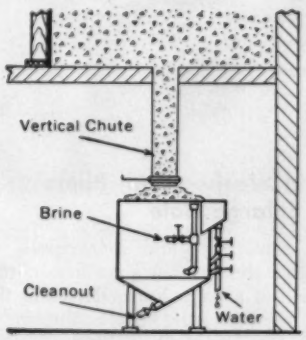
2. Wall-type hopper, bolted directly to an opening in a salt-storage bin. As long as



the salt supply in the bin is sufficiently high to permit gravity flow into the Lixator hopper, feeding will be automatic. When salt supply is no longer self-feeding, the operator stands on the salt in the bin and shovels directly into the hopper.

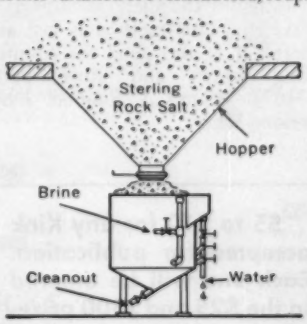
3. Overhead storage with gravity feed into hopper. This design is often used when uninterrupted salt feed is needed, but the storage floor has relatively little salt capacity. A cylindrical-type hopper directly under the hatch holds a large amount of salt for feeding the Lixator—and acts as a substantial secondary storage unit. Ordinarily, though, if salt can be stored above the Lixator, the next design is preferable.

4. Overhead storage with vertical chute. This direct-feed unit is a practical, econom-



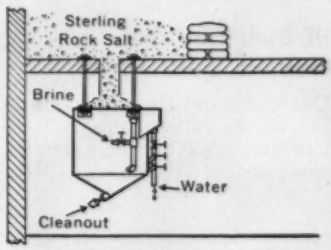
ical way of operating the Lixator. If storage capacity on floor above is large enough, no hopper is needed, which means a considerable saving. Feed is automatic because of angle of repose for salt.

5. Pyramid-type hopper design. This is another variation of overhead feed, coupled



with large storage capacity. But if storage space on floor above is limited, this design is also practical. Salt can simply be dropped into the hopper through a large hatch with a removable cover.

6. Lixator hung above floor, to save floor space. A very desirable design when



floor space is at a premium. Design here also shows use of a few salt bags to act as a storage-bin wall—in lieu of a permanent bin structure.

One final note about the equipment shown here. All Lixators operate on exactly the same principle. They vary only in size and capacity, and in methods of delivering salt to the dissolver unit. All Lixator designs are exclusive International Salt Co. developments, properly protected by patents and patents pending.

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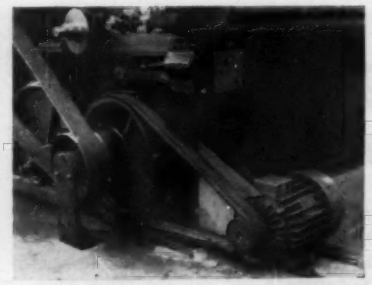
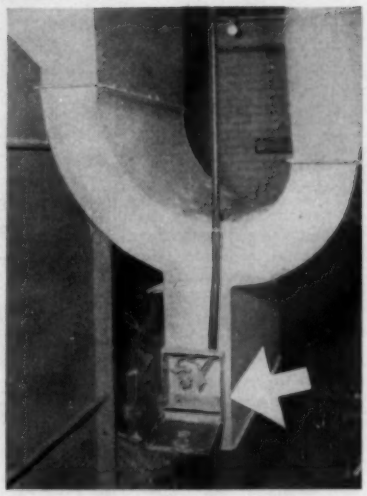


Mill Builds Its Own Individual Card Drives

Our mill wanted to put individual drives on its cotton cards, but machinery has to be imported great distances and is very expensive in Israel. We solved the problem by building our own drives in the mill shop. Here's how we did it:

We built or bought the following parts for each drive: a 1.5-hp., 1,450-rpm. standard motor; a 3-in. motor pulley for three V-belts; a 14-in. driven rope pulley; an 8-in. flat-belt driving pulley for the cylinder shaft; and a sheet-steel cover for safety and dust protection. The parts were assembled and put on the card as illustrated.

The drive works fine. Advantages are little space required, inexpensive motor, little tension or slippage of the flat belt, high starting torque, and neat appearance. Maintenance and belt wear are negligible. The cover is not shown in the photo. (K-3211) *A. de Swaan, Sharon Textile Mills, Israel.*

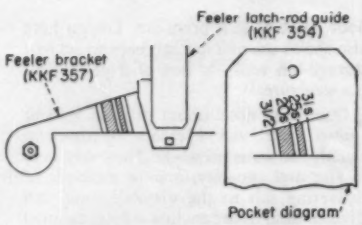


Switch Stops Beaters When a Choke Occurs

Chokes occurring in the pneumatic duct leading from our Superior cleaners used to cause our three cleaners to chop up the cotton that backed up in the line. The beaters would continue to run until the choke was removed or the machinery stopped.

We solved the problem by putting a damper in an extension built beneath the curved duct work shown in the photo. Normal air pressure keeps the damper closed. When a choke occurs, the reduced air pressure permits the damper to drop and activate a switch (arrow) that stops all preceding machinery.

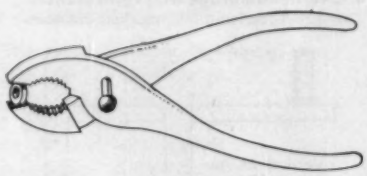
This simple device has saved us much good cotton that ordinarily would be ruined by overbeating. (K-3340) *Falls Mfg. Co., Granite Falls, N. C.*



Set Cheese Feeler With Special Gauge

On four-count Barber-Colman spoolers where many yarn numbers are run, it sometimes is necessary to make different-size cheeses for different yarn numbers. It is difficult to remember the proper size to make for each number, and it is not easy to set the feeler by observing the size of the cheese. Even the standard gauge is not foolproof, inasmuch as the same setting does not produce the same cheese if used in front of a larger cheese one time and in front of a smaller cheese another time.

By marking a series of lines on the KKF 357 feeler bracket, it is possible to determine the exact position of the feeler from the relationship of the KKF 354 feeler-latch-rod guide with the lines. A sketch can be prepared and kept on a card or in a notebook showing the desired position for each yarn number. When the feeler is adjusted to knock up or down to the correct line, one can be sure that the cheese will be the proper size. (K-3082)



Hold Washer With Pliers To Enlarge Hole

I sometimes find it necessary to enlarge the hole in a washer so that it will fit a bolt. Formerly, I did this job by placing the edge of the washer in a vise and reaming it out with a round file. But the washer often slipped out of the vise, and it was hard to get a round role of the correct size.

Now, I put a drill of the size needed in a bench lathe and hold the washer with pliers as shown in the sketch. This method is fast and accurate; it is also good for countersinking screws and stove bolts. (K-3107) *Walter A. Simond, Essex Junction, Vt.*

$5 to $10 for any Kink accepted for publication. Each one will be entered in the $25 and $500 prize-winner contest.

Send in your Kink now.

Knurl Needle Pliers For Better Action

Most pliers for knitting needles have a smooth face on the opposing jaws. This face causes needles to slip when they are put in or taken out of the machine.

You can hold needles better if you knurl the face of the plier jaws with the sharp edge of a half-round file or a fine hack saw. You don't have to make a deep groove; just a few cuts at two different angles is enough. (K-3225)

STORAGE EXPERT

STACKING HEAVY JUTE ROLLS IS ONE-MAN JOB WITH THIS YALE TRUCK

Handling heavy, awkward rolls is no problem when you use a Yale Electric Truck. With this Yale Truck (equipped with ram attachment) the driver lifts, moves and stacks any size roll with maximum speed and ease. Extra truck stability makes fast operation safe... famous Yale Truck maneuverability simplifies handling in crammed quarters...full visibility adds to the safety and ease of operation..."Dead-Man" control sets mechanical wheel brakes when operator leaves his truck.

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Number Identifies Cloth at Every Process

Like most mills, we once sewed the tag showing the style, piece number, weight, and other data on every piece of cloth woven. This sewing was a full-time job for one or more operators; and every day, we'd have pieces of cloth arrive in the finishing department with some or all of the information missing.

To solve this problem, we developed a printed number that would not come out of the cloth in fulling, carbonizing, napping, or piece dying. We also devised a set of tickets to use in conjunction with the identifying number.

After the set maker selects the 8, 10, or 12 pieces of cloth that will be finished together, the information on the loom tickets for each piece is typed on a form. The tickets are then filed for future reference.

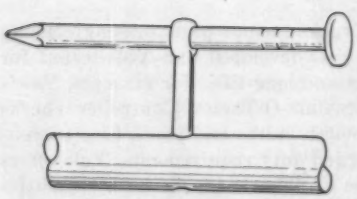
The form we use consists of the original and two copies, the third copy being made of cardboard for strength and durability. The first copy is sent to production control, the second copy is sent to the finishing-department control clerk, and the third copy remains with the set throughout the finishing operations.

Since the identifying number on the piece and on the form is the same, there are no more lost pieces or instructions. The operator who sewed on the tags has been eliminated, and the number is applied in about 10 secs by the weave-room percher.

Now, each operator in every department from gray room to finish percher needs only to look at the form and the identifying number on the cloth to get all necessary information. As a further aid, the forms for different fabrics have different colors. (K-3235) *J. Leo Roberge, North Providence, R. I.*

Conditioning-Room Ceiling Keeps Yarn Dry

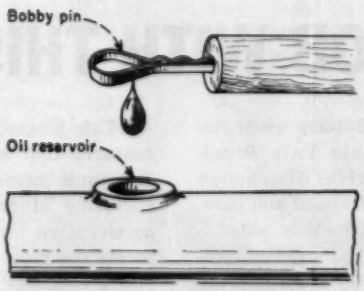
Condensation on the ceiling of our yarn-conditioning room used to drip off on the stock and cause trouble. We solved the problem by putting in a false ceiling, made of corrugated metal, that slants to the rear. Now, when condensation takes place, the water runs to the rear and down the back wall to a gutter that carries it off. (K-3278) *Falls Mfg. Co., Granite Falls, N. C.*



Common Nail Helps Seat Cotter Pin

Sometimes a cotter pin is too snug a fit or the hole is obstructed, and force must be used to insert the pin. Hammering on the head of the pin often damages it or bends it out of shape.

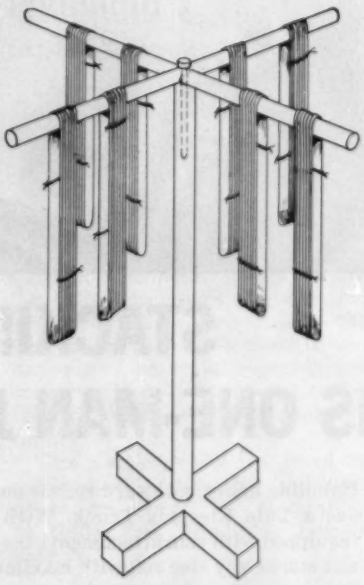
If a nail is stuck through the head of the pin as shown, the pin will hold its shape during hammering. After the pin is seated, the nail can be withdrawn. (K-3171)



Handy Oiling Trick For Hard-To-Reach Places

When a machine part needs oil and cannot be reached with the spout of the oil cup, it can be oiled in this manner:

Insert an ordinary bobby pin in a dowel rod, and drop oil into the loop of the pin. Hold the end of the bobby pin over the place to be oiled, tap the dowel rod handle, and a drop of oil will fall from the pin onto the part. (K-3169)



Revolving Stand Keeps Skeins From Tangling

We formerly used stands with long cross bars to hold skeins of yarn in our winding room. The long bars were awkward, took up too much space, and made it difficult to get the skeins on and off the stand.

We devised a new stand with cross bars that occupy much less space, and the stand is far more convenient to use. The bars revolve on a vertical support so that skeins are easy to remove and do not tangle as they formerly did. The stand is portable. (K-3339) *Hokao, Fukaya, Japan.*

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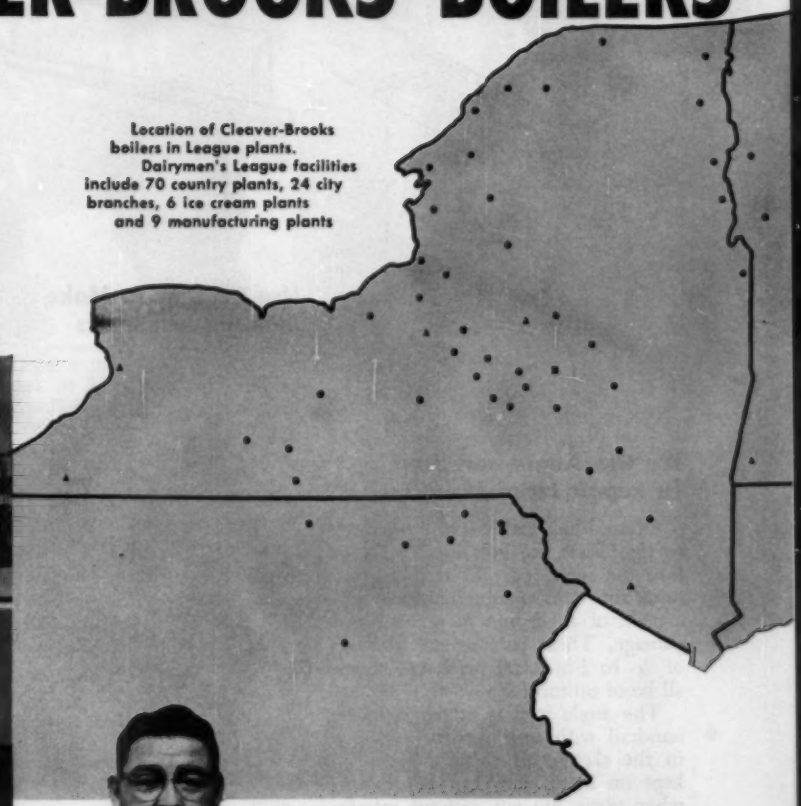
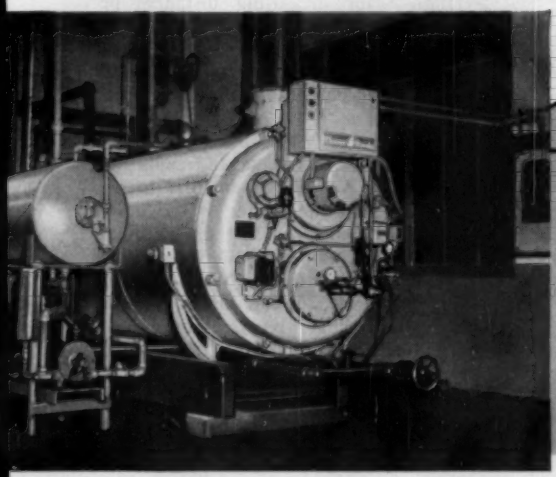


Location of Cleaver-Brooks boilers in League plants. Dairymen's League facilities include 70 country plants, 24 city branches, 6 ice cream plants and 9 manufacturing plants



MILTON, PA. — This country plant is supplied with quick, dry steam from a Cleaver-Brooks 60 hp light-oil fired CB boiler.

"Our 69 Cleaver-Brooks boilers are a key part of our production — their unusually high efficiency, sanitary, clean operation have helped us grow and prosper", says Ken Dodge, staff engineer for Dairymen's League Cooperative Association.

"Maintenance is low. We average far less than one service call per boiler per year," he adds.

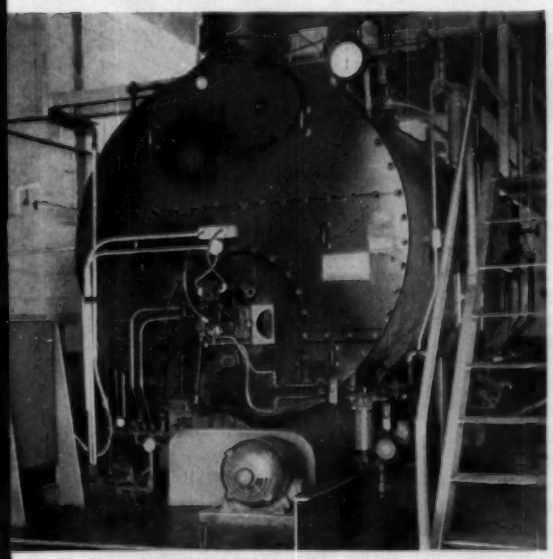
Dairymen's League Cooperative Association, serving 25,000 dairy farmers and thousands of consumers in New York, Pennsylvania and New Jersey, has been a steady user of Cleaver-Brooks boilers for 20 years.

Like any dairy company, the League finds steam essential for the production of quality dairy products. Their boilers are the work horses of their plants — supplying steam for pasteurizing, heating, cleaning and processing.

And Cleaver-Brooks boilers, with their exclusive four-pass, forced draft design and clean, quiet operation are especially suited to dairy plant operation.

Famous dairies the country over are profiting with the many advantages of Cleaver-Brooks boilers, available in a complete line. You can select from 110 models in 18 boiler sizes, 15 through 600 hp . . . oil, gas and combination oil and gas fired.

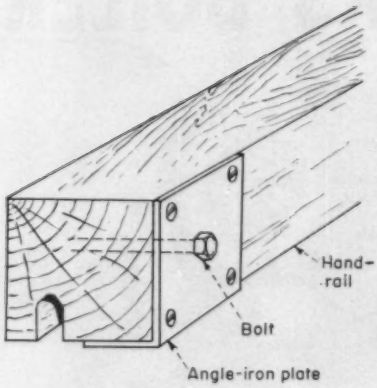
For more information contact your nearby Cleaver-Brooks representative. Or write Cleaver-Brooks Company, Dept. B, 361E. Keefe Avenue, Milwaukee 12, Wis. Cable Address: CLEBRO — Milwaukee — all codes.



UTICA, N.Y. — In this city plant a 250 hp LR heavy-oil fired boiler provides all steam for pasteurizing, cleaning, heating and processing.

Cleaver Brooks

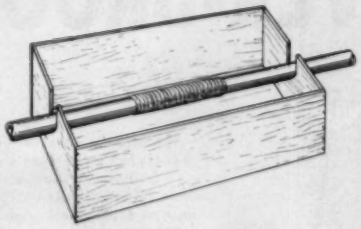
ORIGINATORS OF THE SELF-CONTAINED BOILER



We Use Angle-Iron Plate To Repair Loom Handrail

Often a handrail bolt will be drawn so tight that the bolt head will sink into the wood or split it. We reinforce the ends of our handrails with a piece of angle iron to prevent such damage. These patches can be made of ⅛- to ¼-in. steel plate and should all be of uniform size.

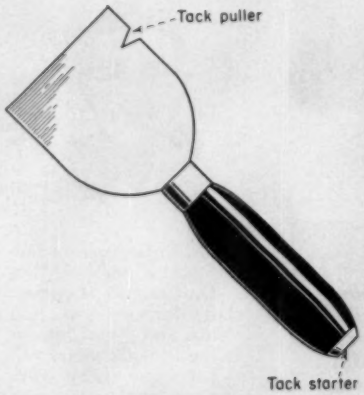
The angle iron is attached to the handrail with four screws, as shown in the sketch. If enough plates are kept on hand, they can be installed when warps are out without interfering with normal production. (K-2845) *Gene Reichley, Berwick, Pa.*



Use Cement To Make Emergency Repairs

If a leak occurs in a pipe that is buried or impractical to remove, it can be repaired in the following manner:

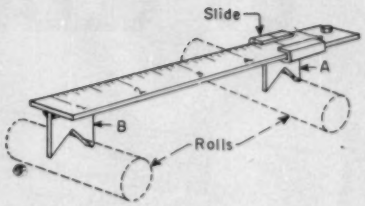
Take a wooden or metal box, cut a slot in each end the size of the pipe, and place the box under the pipe at the leak. Wrap the pipe securely with waterproof tape; then fill the box, or form, with quick-drying cement. (K-3152)



Convert a Putty Knife To Make a Gluing Tool

A putty knife makes a handy tool for applying glue to either a flat or round surface. It is especially useful when glue is used to attach covering to loom take-up rolls.

A small notch cut in the side of the blade makes an excellent tack puller for removing the old covering. If a hole is drilled in the end of the handle, a heavy screw inserted, and the head of the screw filed flat, it will make a tool for starting tacks in the new covering. (K-2919) *H. E. Wenrich, Berwick, Pa.*



Make Roll-Setting Gauge From Steel Rule

There are various gauges on the market for measuring distances between steel-roll centers, but we have never found one that works as well as a gauge we made in our shop. We call it No-Pi because it saves us calculations.

To make a No-Pi gauge, you simply take an old steel rule and braze the notched piece *B* permanently to one end so that the center of the notch is exactly over the first gradation on the rule. The notch should be wider than your largest roll. Make a similar notched piece *A*, but fasten this one on a slide that fits over the edges of the rule. Insert a stop bolt at the end of the rule.

To use, place the rear notch over one roll and adjust the slide until the other notch fits over the second roll. Then read the distance between the roll centers on the rule. (K-3214) *H. K. Mikkelsen, Ytre Arna, Norway*

Locate Misreeds With Strip of Plastic

On dark-colored weaves, it is often hard to locate a wrong draw or misreed even when the defect shows in the cloth. An aid for detecting the misplaced end is a strip of white or yellow plastic.

Trim a 6-in. strip of plastic to about ½ in. in width and about as thick as a hacksaw blade. Shape one end of the plastic to resemble the point of a letter opener so that it can be easily inserted between the warp ends. Sand the tool perfectly smooth with the aid of crocus cloth.

To locate defects, insert the tool under the warp yarn in front of the reed. All wrong draws, heavy or light ends, and other defects will show against the light background. (K-3061) *A. F., Berwick, Pa.*

Extra Pick Bar Improves Builder Motion

We spin filling numbers from 3.75s to 30s on 1948 H&B frames. Since we are using a four-point cam on the builders we had to change from single to triple worms. The triple worms tended to let off by themselves. We put a brake on the worms, but it didn't work satisfactorily.

We overcame the problem by putting on an extra pick bar that takes over after the regular pick bracket has gone its limit.

Before making this change, we could get only 25 picks for each turn of the cam while using the triple worm. We changed back to single worms and now get above 40 picks per turn. (K-3336) *Floyd Buckner, Buck Creek Cotton Mills, Siluria, Ala.*

AL CHROMIUM-MANGANESE LOW-NICKEL STAINLESS GRADES

Here is a direct answer to the recurring problem of nickel shortage. For many users of chromium-nickel austenitic stainless steels, the new AISI 200-series of chromium-manganese low-nickel austenitic grades can be a source of immediate relief—and an avenue to the reduction and possible avoidance of nickel shortage problems in the future.

In many cases, you can switch directly from the older Type 301 and 302 grades to the new AL Stainless Type 201 and 202 steels, using the same fabricating processes and securing about the same results. There's nothing new to learn, and no loss in performance in practically all applications. In certain respects, these steels have better properties than the older materials and may be used to actual advantage in some cases.

We also produce low carbon grades of these chrome-manganese steels, arbitrarily designated Types 204 and 204L (similar to the older grades 304 and 304L) . . . as well as a lower-chromium, higher-manganese grade designated Type CM, which contains only 1% nickel. Allegheny Ludlum has pioneered in the development and application of these low-nickel stainless steels. We know what the new grades will do . . . let us help you put them to use. ***Allegheny Ludlum Steel Corporation, Oliver Bldg., Pittsburgh 22, Pa.***

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SKF Roller Bearing Spindles are available in several sizes and types of bolsters, assuring mills of the right size bearing for most applications. More of these spindles have been installed recently than ever before—in fact, there are more in operation today than all other makes of anti-friction bearing spindles combined.

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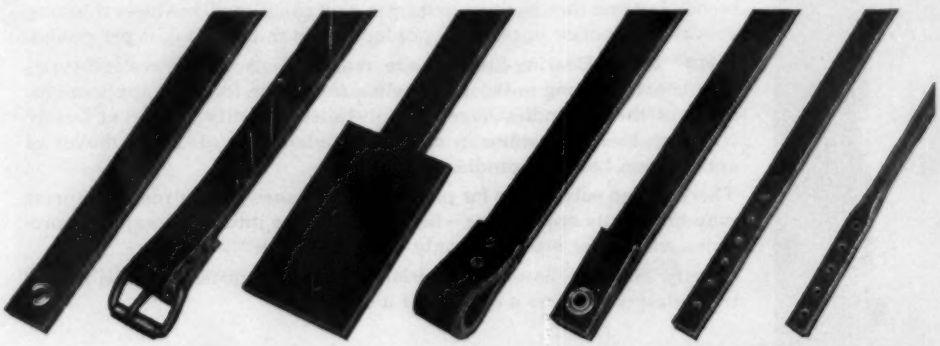

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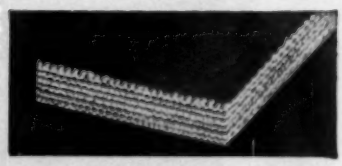

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NEW DYES AND CHEMICALS:

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NEW LITERATURE:

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TEXTILE WORLD, A McGraw-Hill Publication, New York 36, N. Y. February, 1957

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NO REPEATS . . . Listed here for February are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

Umbrella creels—Adaptable to all frames, handle large or small packages, single or double roving. Bouligny Co. (F-1)

Automatic bobbin winder—For filling yarn. Cones are housed, suction removes lint to a collector. Bulletin MSV. Whitin Machine Works. (F-2)

Top arm—For spinning frames, features simplified design and self-contained suspension system. Adaptable to existing equipment. Saco-Lowell Shops. (F-3)

Long-fiber spinning frame—For synthetics and blends of synthetics with cotton. Gwaltney system available with five different drafting assemblies. Saco-Lowell Shops. (F-4)

Spinning-frame cleaners—Vacuum system that can be set up as units or combined in a central system. Bulletin F55. Parks-Cramer Co. (F-5)

Pressure-dyeing machine—For woven or knitted fabrics. Multibeam carriage handles fabric or yarn in all fibers. Bellfour GmbH. (F-6)

Jacquard knitting machine—Multipurpose circular machine, 32-in. dia., 24-feed automatic knitter for interlock, transfer, or rib fabrics. Jacquard Knitting Machine Co. (F-7)

Raschel loom — For laces, curtains, tulle fabrics. Up to 300 rows per min., 130 ins. wide. Wilhelm Barfuss. (F-8)

Latch-needle knitter—For laces, nets, trimmings. Various gauges, up to 100 ins. wide. Produces up to 450 courses per min. J. Hobley & Co. Ltd. (F-9)

Tricot machine—For high-speed production of synthetic-yarn fabrics; 1,250 courses per min., 84 ins. wide, 28 gauge. F.N.F. Machinery Mfg. Co. Ltd. (F-10)

AUXILIARY EQUIPMENT

Twister tapes—Nylon tapes bondable on the machine, also suitable for spinning frames. Tape and bonding machine described in folder from R. E. L. Holt, Jr., & Associates, Inc. (F-11)

Yarn-number scale — Direct-reading scale handling up to 250 grains. Sensitivity to 1/10 grain. Exact Weight Scale Co. (F-12)

Moisture meter — For picker tare-weight determination. Indicates moisture content of stock passing through picker. Strandberg Engineering Laboratories, Inc. (F-13)

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Loom pads—For mounting looms without bolts or cement. Resistant to oils and detergents. Yeomans Textile Machinery Co. **(F-14)**

Finishing machinery — Sewing machines, color strainers, cut-off winders, scutchers, and other auxiliaries described in literature from Birch Bros. Inc. **(F-15)**

Liquid-level control—For tanks. Liquid levels maintained electrically through probes and connected relays. Machinery Electrification, Inc. **(F-16)**

Bobbin hanger—For overhead creels; has positive latch, free-running ball construction. Hartford Machine Screw Co. **(F-17)**

Shuttles — Various types in several woods adapted for natural- and synthetic-fiber weaving. Godo Shuttle Co. Ltd., Ed. S. Rudnick, American representative. **(F-18)**

Loom cleaner — Traveling oscillating cleaners with radial fans. Bulletin F-65. Parks-Cramer Co. **(F-19)**

Homogenizer—For laboratory work. Capacity to 25 gals. per hr. Two models operating at 3,500 psi. and 8,000 psi. respectively on continuous basis. Manton-Gaulin Mfg. Co., Inc. **(F-20)**

SUPPLIES & CHEMICALS

Vinyl acetate monomer—Bulletin describes physical properties, reactions, and polymerization data. Air Reduction Chemical Co. **(F-21)**

Special greases—For use where water or high-temperature conditions prevail. Bulletin 50. Sun Oil Co. **(F-22)**

Industrial cleaners—Special formulations and processes described in booklet from Oakite Products, Inc. **(F-23)**

Nonslip finishes—For cartons, bags, other shipping containers. Improves stacking, reduces accidents from slippage. Grasseli Chemicals Dept., E. I. du Pont de Nemours & Co., Inc. **(F-24)**

Heavy chemicals—Manufacturing facilities for alkalis, chlorine, allied products described in booklet from Diamond Alkali Co. **(F-25)**

MAINTENANCE & ENGINEERING

Desludging service—For steam systems, heaters, traps. Three-step method described in booklet from Apex Engineering Co. **(F-26)**

Industrial lighting equipment — For plants, offices. Many types described in Bulletin 1e from Benjamin Electric Mfg. Co. **(F-27)**

Hot-lime-zeolite softeners — Combination treatment for boiler feed water described in Pub. 4801-A from Cochrane Corp. **(F-28)**

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NEW LITERATURE Continued

Industrial lighting—1956 catalog of standard specifications set up by Reflector and Lighting Equipment Mfrs., available from RLM Standards Institute. (F-29)

Roller-bearing data — Specifications and data on roller bearings to 7-in. shaft sizes in Cat. 55 from Chain Belt Co., Shafer Bearing Div. (F-30)

Couplings—Rigid and flexible couplings of various types and sizes listed in Cat. V-169-E from Browning Mfg. Co. (F-31)

Vibration mountings—Steel-and-rubber units in various combinations to suit many machine-mounting requirements. Cat. RS-55. T. R. Finn & Co., Inc., Ind. Div. (F-32)

Speed reducers—Worm-and-gear types from fractional- to 300-hp. capacities listed in Form 521. Cleveland Worm & Gear Co. (F-33)

Switch tips—Collection of ideas and applications for small switches in industrial applications. Booklet from Micro Switch Div., Minneapolis-Honeywell Regulator Co. (F-34)

Corrosion-resistant valves — Globe, gate, angle, and check valves listed in Cir. AD2080 from Crane Co. (F-35)

Deaerating heater—Designed for the smaller plant, supplied as a packaged unit. Tech. Reprint T-149. Graver Water Conditioning Co. (F-36)

Steel-tubing specifications—A guide to the user of steel tubing, valves, and fittings. Provides cross reference between various steels, application, and type necessary. Tech. Data Card 186, Babcock & Wilcox Co., Tubular Products Div. (F-37)

Coupling-selection chart—Shows how to select the proper coupling for most power-transmission jobs. Form CM41-45, Morse Chain Co., Ind. Sales Div. (F-38)

Process-control valves—For automatic processes. Reducing, regulating, pilot types described in Cat. 56C. Atlas Valve Co. (F-39)

Humidity-control instruments—Permanent and portable models for indicating, recording, controlling humidity in plants. Bull. H1009. Bristol Co. (F-40)

GENERAL

Materials handling — Boxes, trays, trucks, for storing or conveying materials in plants. National Vulcanized Fibre Co. (F-41)

Low-profile truck—Fork-lift truck, 1-ton capacity, electric power, hydraulic lift. Bul. 6011A. Automatic Transportation Co., Div. of Yale & Towne Mfg. Co. (F-42)

Maintenance machine — Blows down, sweeps, picks up plant debris. Three models handle 20,000 to 48,000 sq. ft. per hr. Wilshire Power Sweeper Co. (F-43)

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NEW LITERATURE Continued

Traction motors—For low-voltage vehicles. 1 to 2 hp. 12, 24, and 36 v. d.c. Brochure from General Electric Co., Specialty Component Motor Dept. (F-44)

Conveying equipment — Belt-, roller-, chain-type conveyors, auxiliary equipment listed in folder from Island Equipment Corp. (F-45)

Battery chargers — For industrial trucks. Automatic operation. Floor- and battery-mounted models in various capacities. La Marche Mfg. Co. (F-46)

Financing plan—Pay-as-you-depreciate plan, available to domestic purchasers only, described in folder from Supreme Knitting Machine Co. (F-47)

Battery-charger unit—For industrial trucks; provides power and battery charger in one package. KW Battery Co. (F-48)

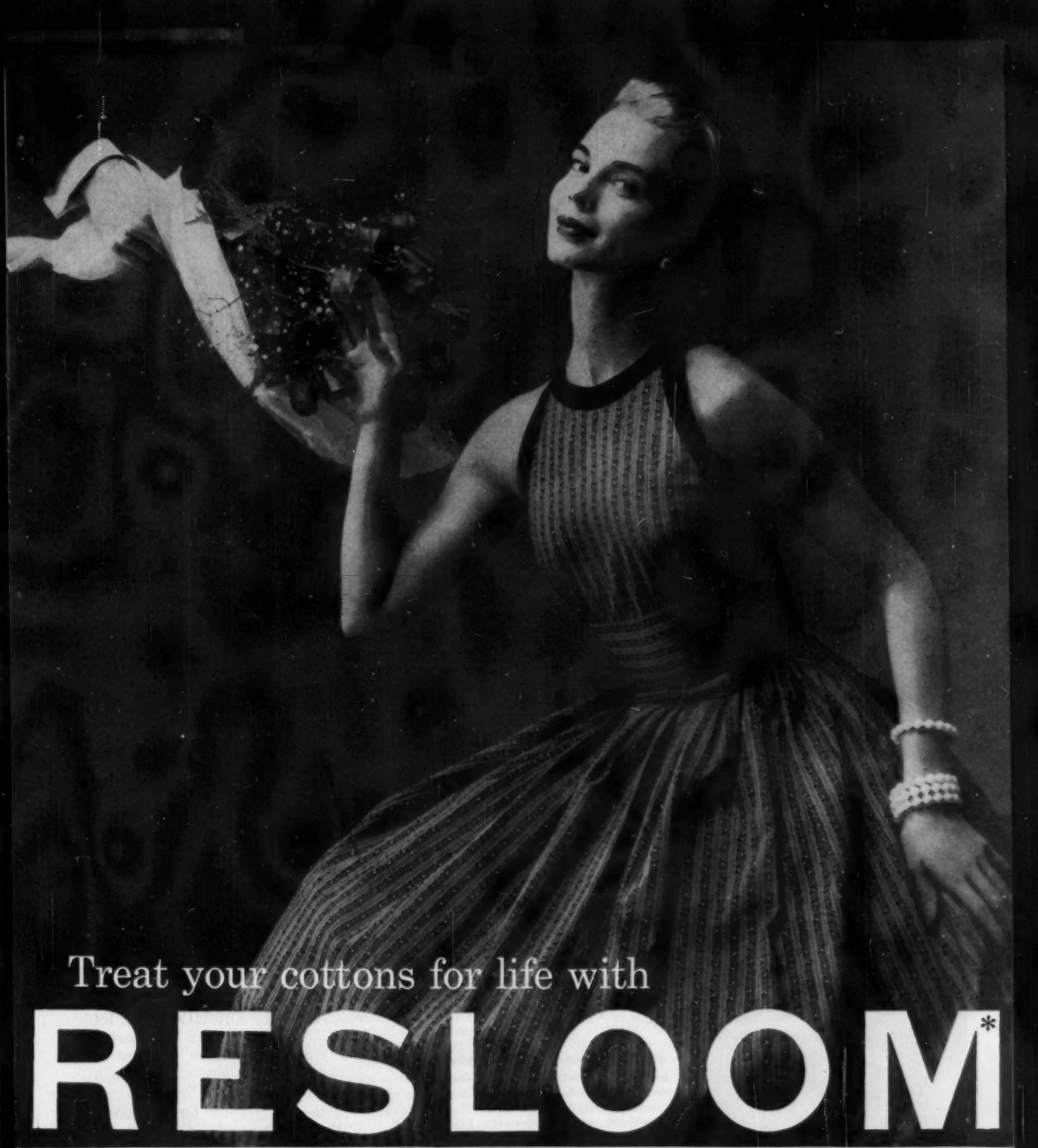
Hand-lift trucks — Hydraulically-powered trucks, 2,000-lb. capacity, for pallets or skids. Market Forge Co., Materials Handling Div. (F-49)

Testing data—Supplementary information to original "Tables & Data." Provides formulas, charts, and definitions in broader fields of chemistry, physics, and biology. United States Testing Co. (F-50)

CARPET ANNUAL 1956-57; British-Continental Trade Press, 222 Strand, London, W. C. 2, England. 400 pages, £1 postpaid.

The world picture in the carpet industry is once again presented in this volume. Many illustrations, of which 40 are in full color, point up the designs and color schemes currently favored.

Included are directories listing raw materials, machinery, carpet manufacturers, wholesalers, who's who, trade marks and names, and a buyer's



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MANUFACTURERS AND CUTTERS OF WOOL FELTS

guide. Technical developments and comments on design are treated in editorial chapters.

RESEARCH IS PEOPLE; Industrial Research Institute, New York University Press, New York, N. Y.; paper, 69 pages, $4.

This discussion of the recruitment, motivation, recognition, rating, and evaluation of research personnel is compiled from papers delivered at the Spring 1956 meeting of the Industrial Research Institute. The subjects in each category are covered by industrial and academic leaders familiar with the problems peculiar to hiring higher-type personnel.

The book exemplifies the vast differences between present-day hiring methods and the hit-or-miss tactics that prevailed until not too long ago.

WOOL WAX CHEMISTRY AND TECHNOLOGY, by E. V. Truter; Cleaver-Hulme Press Ltd., London, England. Available through Interscience Publishers, New York, N. Y. 368 pages, $8.75.

This volume is a comprehensive review of the chemistry and technology of wool wax, which is defined as the solvent-extractable element of wool yolk.

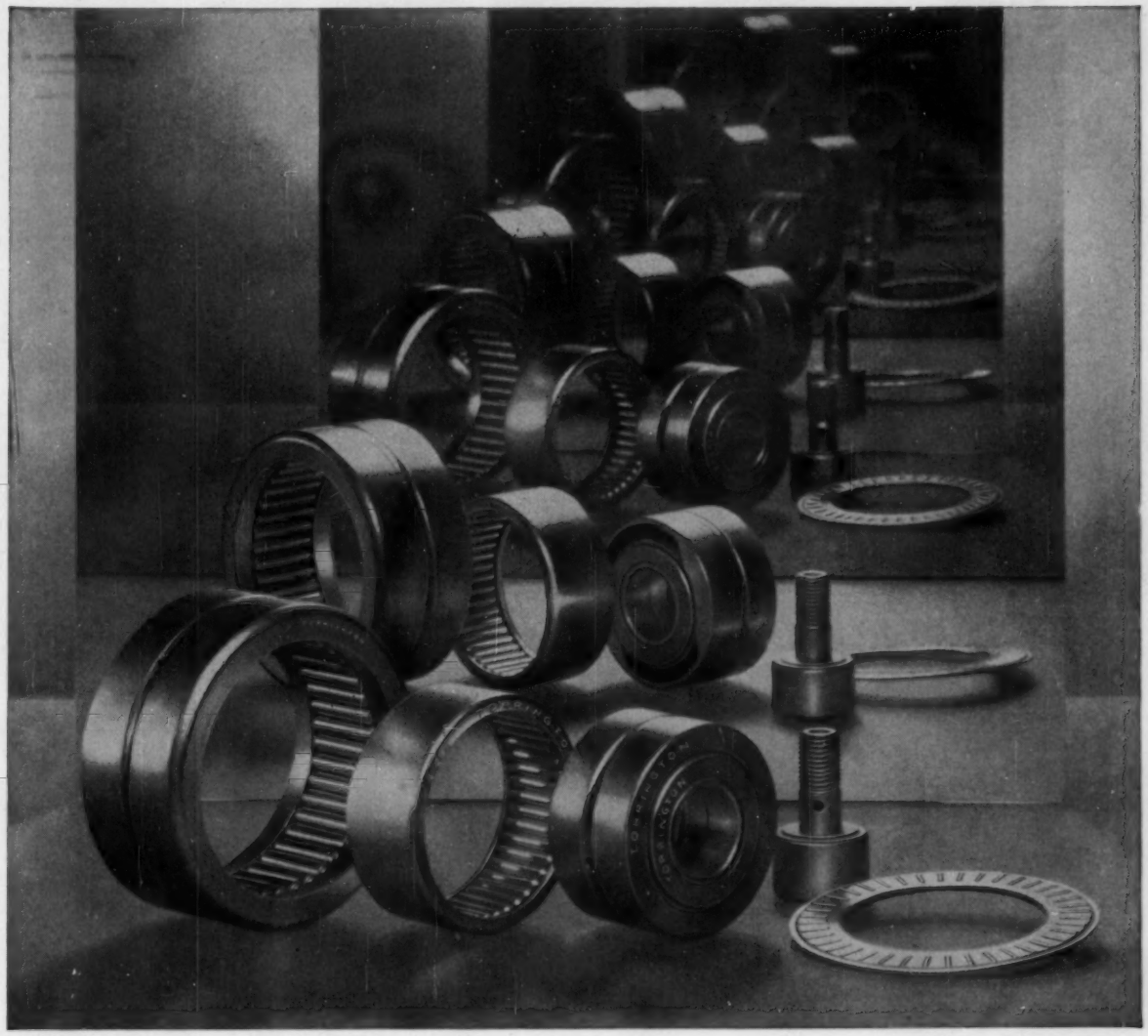
The complicated chemistry of wool wax, its behavior in emulsions, its recovery, and its uses are gone into very thoroughly. The isolation and determination of cholesterol, the most valuable major component, is described fully. Isocholesterol, steroid derivatives, and molecular structure are well covered.

The commercial recovery of wool grease by the Bradford system is described.

TECHNICAL DICTIONARY IN SIX LANGUAGES, Vol. 16, Weaving and Fabrics, by Alfred Schlomann; Verlag Von R. Oldenburg, Munich, Germany; 720 pages, DM60.

A handy reference for researchers in the weaving craft, this book includes the names of machines, parts, yarns, and fabrics in English, German, Russian, French, Italian, and Spanish.

Every phase of weaving is thoroughly covered so that terms peculiar to the craft are readily found. Raw materials, design, and slashing are also minutely broken down into individual terms so that a translator can readily convert to the idioms peculiar to his own language.



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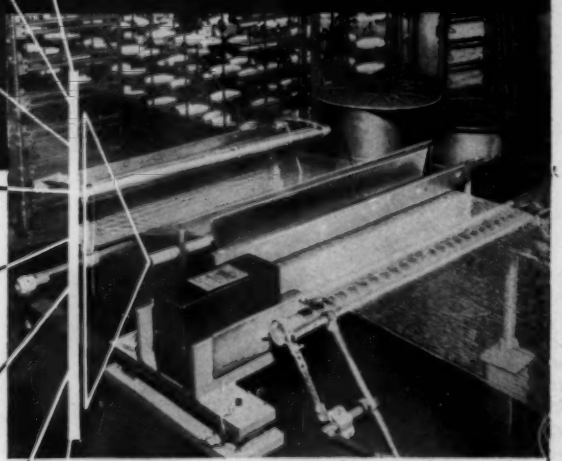

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AUXILIARY EQUIPMENT

CONTINUED FROM PAGE 158

Tape Sealer

A single-strip tape sealer for containers was announced by General Corrugated Machinery Co., Palisades Park, N. J. The machine automatically tapes 25 or more cases per minute. (A-463)

Pneumatic Switching Valve

A pneumatically operated switching valve for dual-pressure pneumatic-control systems was announced by Johnson Service Co., Milwaukee, Wis. The exhausting three-way valve will switch automatically on a dual-supply pressure change. (A-464)

Thermocouple Connector

A small thermocouple connector that requires little installation time was announced by Thermo-Couple Products Co., Melrose Park, Ill. There are only two screws in the complete unit. (A-465)

Type Holder

The Model HTS announced by M. E. Cunningham Co., Pittsburgh, Pa., was designed for special marking operations where type has to be quickly changed after one or two impressions. (A-466)

Pneumatic-Tired Hand Truck

A stevedore truck with pneumatic tires was announced by Hamilton Caster & Mfg. Co., Hamilton, Ohio. Rated at 400 lbs., the trucks reduce breakage of fragile goods and cut down wear on floors. (A-497)

REGULATING, MEASURING, ETC.

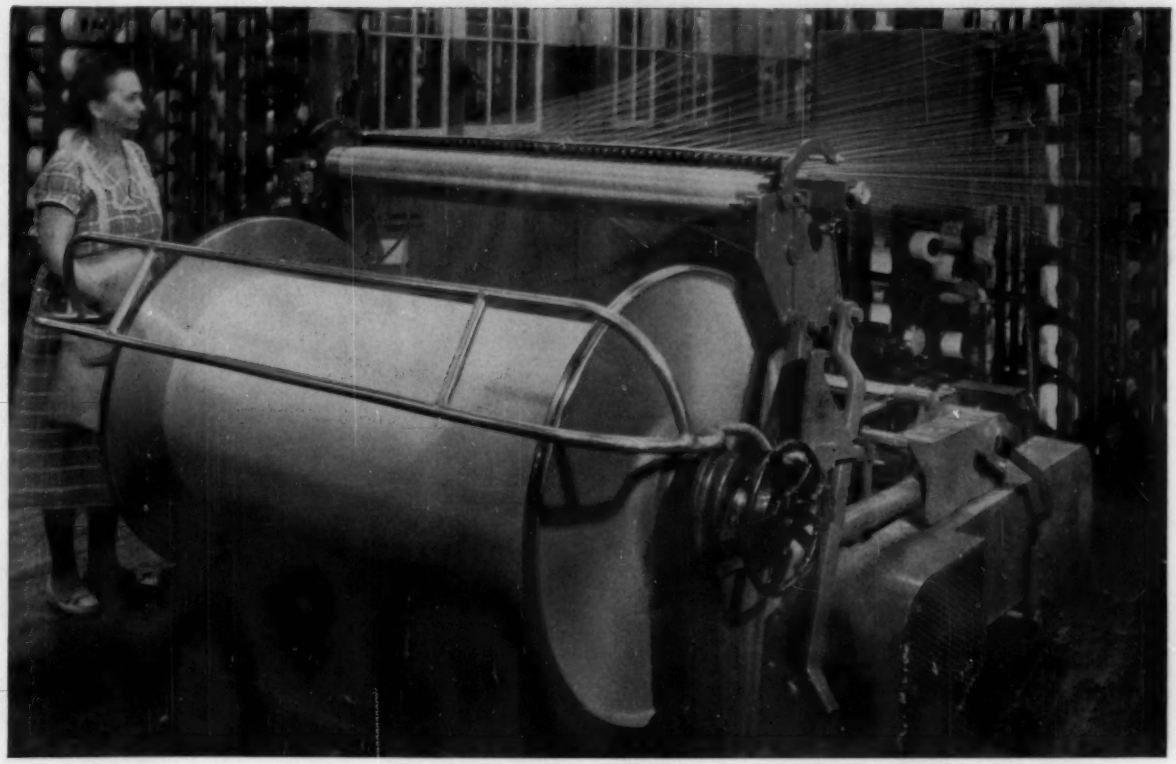
CONTINUED FROM PAGE 137

Vernier Depth Gauge

A quick-acting vernier depth gauge for machinists and mechanics was announced by George Scherr Co., Inc., New York, N. Y. (A-467)

Safety Bags

Laboratory pressure bottles can now



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HAYES giant beam improves efficiency for cotton mills

Here is the new giant 38" x 54½" Aluminum Section Beam for cotton and spuns! This beam, for the first time in the textile industry, is now going into leading cotton mills to *improve their efficiency, cut costs,* and *increase profits.* One of these 38" beams does the work of two 28" beams, — saving one-half the handling time.

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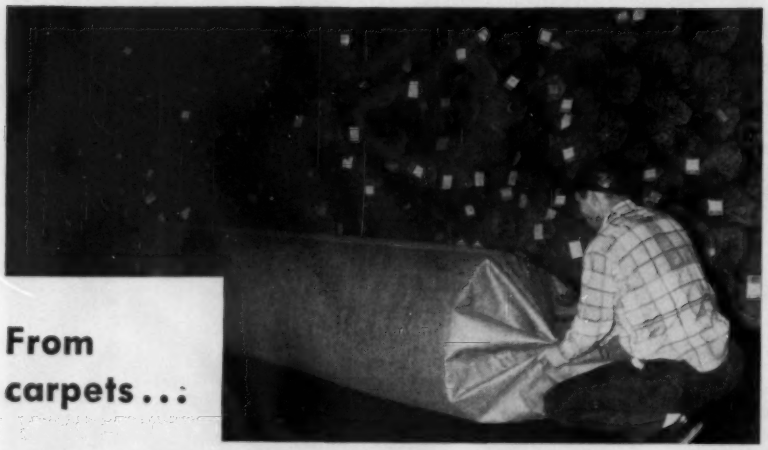
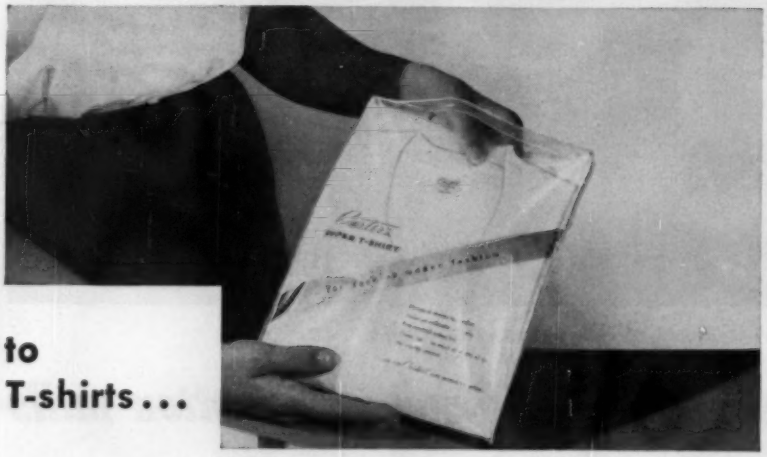


From carpets...



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Bemis is the textile industry's top source of packing and packaging

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be supplied with safety bags made of Dynel, according to Carbon & Carbide Chemicals Co., New York, N. Y (A-468)

Strain-Gauge Indicator

A precision servo-driven indicator for measuring the output of conventional strain gauges was made available by Industrial Control Co., Wyandanch, L. I., N. Y. (A-469)

Self-Leveling Mount

Machine mounts with built-in features to level the machine were introduced by MB Mfg. Co., Div. of Textron-American, Inc., New Haven, Conn. (A-470)

Metal Detector

An electronic inspection machine for detecting metal that will spot metallic specks smaller than a typewriter dot was developed by Radio Corp. of America, New York, N. Y. (A-471)

Speed-Change Indicator

A speed-change sensing system for precision automatic speed-control equipment was announced by Weston Electrical Instrument Corp., Newark, N. J. (A-472)

Safe Clutch Control

An improved electric two-hand control for industrial machines was announced by Minneapolis-Honeywell Regulator Co., Industrial Div., Philadelphia, Pa. (A-473)

Distilled-Water Heater

A laboratory unit that provides hot water at temperatures set by an adjustable thermostat was made by Barnstead Still & Sterilizer Co., Boston, Mass. (A-474)

Pressure Gauge

A pressure gauge for determining available air pressure at point of use was developed by U. S. Gauge Div., American Machine & Metals, Inc., Sellersville, Pa. (A-475)

Solenoid Water Valve

A soft-seated solenoid-operated floating-piston valve for a wide range of

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No Lint Pile-up!

New Louis Allis "Clean-Flo" Self-Cleaning textile motor solves many textile mill motor problems

The new Louis Allis "Clean-Flo" textile motor is a brand new concept in self-cleaning motors, designed exclusively for the textile industry. Smooth, streamlined contours, elimination of pockets, special housing-casting plus high-velocity motor-ventilating fan, keeps motor free of lint.

The new "Clean-Flo" motor is built to meet standard NEMA mounting dimensions, making it an extremely short, enclosed textile motor. Complete interchangeability with existing NEMA motors is also assured for maximum flexibility.

Versatile mounting permits the motor to be built with the shaft brought out through the fan end as an alternate construction. This allows the motor to be mounted in the aisle, but directs the air flow away from the driven machine. There's also a special design for spinning-frame service, with suspension mounting and disc brake.

There are many other important features about this motor that are specially designed for textile service, and we'll gladly tell you all about them in Bulletin 1850, "Clean-Flo Enclosed Textile Motor." Contact your Louis Allis District Office or write Louis Allis Co., 443 E. Stewart St., Milwaukee 1, Wis.

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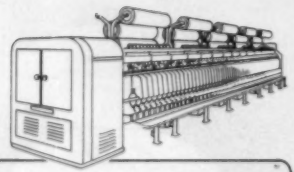
Compare your wool spinning records with these

"coordinated production" figures



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Profitable mill operation requires thorough, expert planning of both the necessary equipment and the method of operation. Here are positive ways Davis & Furber can help you obtain *such* "Coordinated Production" efficiency — vital in today's competitive market.

A Davis & Furber Technical Survey will include:

Recommendations for —

★ *An over-all production improvement plan.*

★ *Equipment additions or changes to match your stock and yarn specifications, together with the investment required.*

★ *Establishment of a preventive maintenance and operating program, to increase efficiency.*

Plus actual:

★ *Set up of equipment "in-the-mill."*

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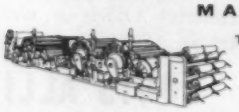

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applications was developed by Minneapolis-Honeywell Regulator Co., Philadelphia, Pa. (A-476)

Temperature-Controlled Cabinets

Stainless-steel cabinets designed for testing many materials under controlled conditions of temperature and humidity were made available by Hudson Bay Co., Chicago, Ill. (A-477)

Vacuum Oven

A vacuum oven for laboratory purposes was introduced by Precision Scientific Co., Chicago, Ill. (A-478)

Packless Solenoid Valve

The packless solenoid valve developed by Magnatrol Valve Corp., Hawthorne, N. J., was designed for electric control of heavy hydraulic machinery. (A-479)

Visual Control Boards

Visual control boards for plant operations were made by Methods Research Corp., Staten Island, N. Y. (A-480)

Laboratory Clamps

Better-gripping surfaces have been incorporated as an integral part of a new line of laboratory clamps made by Fisher Scientific Co., Pittsburgh, Pa. (A-481)

Overload Protector

A slip-clutch overload protector that safeguards machines from damage was announced by Machine Accessories Minneapolis, Minn. (A-482)

Solder-End Valves

Five bronze solder-end valves were announced by Lunkenheimer Co., Cincinnati, Ohio. (A-483)

Temperature Controllers

Temperature controllers announced by Minneapolis-Honeywell Regulator Co., Philadelphia, Pa., use a remote bulb sensing element to rapidly detect and correct for temperature changes. (A-484)

Speed Controls

Complete 1- and 1½-hp. Variac

stay with a manufacturer for...

HYDROSULFITE AWC
HYDROZIN
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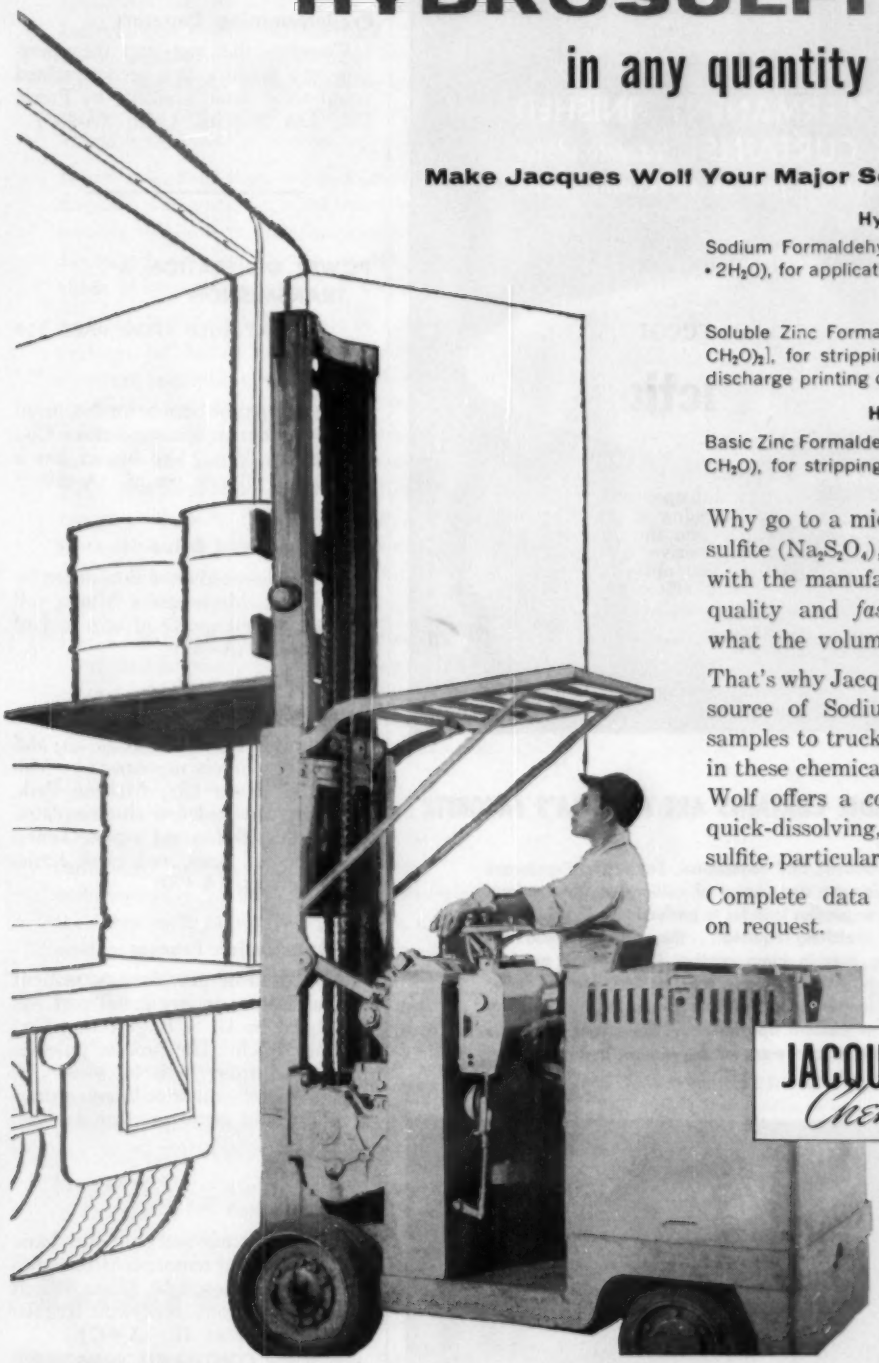

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Sodium Formaldehyde Sulphoxylate ($NaHSO_2 \cdot CH_2O \cdot 2H_2O$), for application and discharge printing.

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Soluble Zinc Formaldehyde Sulphoxylate [$Zn(HSO_2 \cdot CH_2O)_2$], for stripping wool and acetate fibers, and discharge printing of acetate dyed goods.

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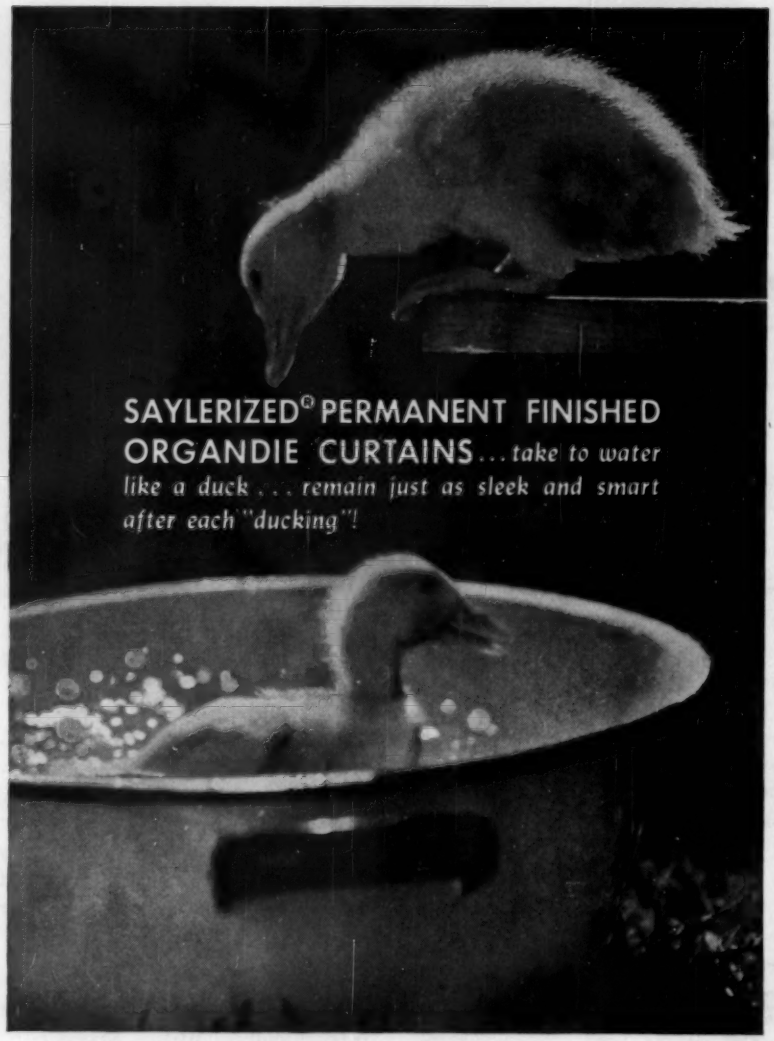
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Sayles

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New York Office: 70 W. 40th St.

motor-speed controls were introduced by General Radio Co., Cambridge, Mass. (A-485)

Panel Controls for Burners

Fireye AC panel-control systems for automatic burners were announced by Combustion Control Div., Electronics Corp. of America, Boston Mass. (A-486)

Predetermining Counters

Counters that can stop the operation of a machine at a predetermined count were made available by Presin Co., Los Angeles, Calif. (A-487)

POWER GENERATION & TRANSMISSION

CONTINUED FROM PAGE 139

Oil Burner

A gun-type oil burner for No. 6 oil was designed by Cleaver-Brooks Co., Milwaukee, Wis. The burner has a capacity of 90 gals. per hr. (A-488)

Variable-Speed Drive

A variable-speed drive introduced by Revco, Inc., Minneapolis, Minn., will produce output speeds of zero to ¼ of input speed. (A-489)

Power Cylinders

Improved features for its air and hydraulic cylinders announced by Miller Fluid Power Co., Melrose Park, Ill., were casehardened chrome-plated piston rods, Teflon rod wipers, Teflon hydraulic rod seals, and black ferric-oxide surfaces. (A-490)

Dry-Lubrication Process

A method of providing permanent dry lubrication to any metal part was developed by U. S. Engineering Co., Detroit, Mich. The process provides lubrication from −30 to +800° F. and is useful where ordinary greases or oils would cause product damage. (A-491)

Toggle Switch

A toggle switch that simplifies basic circuit designs of remote-control equipment was developed by Micro Switch Div., Minneapolis-Honeywell Regulator Co., Freeport, Ill. (A-492)

CONTINUED ON PAGE 220

The Laurel Leaf

BUSINESS MAGAZINE EDITION

Everybody is talking about . . .
LAURAMINE RT . . .
Laurel's new anionic softener!
Recommended for the finishing of cotton fabrics and yarns, it may also be used on rayon, wool and certain synthetics and blends with excellent results.

It is a soft, fluid paste which is readily dispersible in warm or tepid water, extremely resistant to high temperature and ageing effects, and will not change the shade of dyed fabrics or yellow whites.

LAURAMINE RT will impart to a fabric a uniform, full-bodied softness and provide excellent lubrication, which will improve the sewing and cutting properties. This quality product gives fine results when used as a top softener for resin-treated goods and is also an excellent softener for use of goods to be napped, imparting just the right degree of softness and lubrication to the fabric and holding up the nap once it is raised.

LAURAMINE RT is the ideal softener for print cloths because it resists penetration of the print paste and thereby promotes a higher color value. This property is particularly desirable in pigment printing.

LAURAMINE RT is also useful as a replacement for conventional oils and softeners, either wholly or in part, in the sanforizing process. Applied to denims and chambrays, for example, it will lubricate the fabric as it passes over the shoes, will produce a fabric which is not as limp and raggy as conventional oils, and will also improve the cutting and sewing properties.

We'd like you to get acquainted with this quality member of the Laurel family. A generous sample of LAURAMINE RT, together with complete details is awaiting you. Write TODAY. There's no obligation, of course.

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Company.....
My name..... Title.....
Street.....
City..... Zone..... State.....
Type of machine:.....

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● High-speed, trouble-free operation assured by simplicity of design, sound engineering, precision unit-construction of all sub-assemblies. Wide operating range, new refinements, increase production up to 20%
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ORDNANCE machines are available in 18", 20", 22" and 24" with 8 feeds; in 30" and 32" with 12 feeds.
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Fluid Drive

A fluid drive for textile machines was announced by American Blower Corp., Detroit, Mich. The drive is made in 1 through 25 hp. and may be applied to can dryers, tenter frames, calenders, nappers, centrifugal extractors, cards, warpers, worsted spinning machinery, pumps, compressors, and fans. (A-493)

Boiler With Controls

A 200-hp. boiler introduced by Cleaver-Brooks Co., Milwaukee, Wis., has a full-modulating burner, silent oil pump, and davited rear and front doors that expedite tube removal and cleaning. Operation is very quiet. (A-494)

Chain Couplings

Flexible chain couplings designed to permit slight angular- and parallel-shaft misalignment were manufactured by Dodge Mfg. Co., Mishawaka, Ind. (A-495)

Autotransformer

A flexible and versatile autotransformer was introduced by General Radio Co., Cambridge, Mass. (A-496)

MILL PRODUCTION

CONTINUED FROM PAGE 96

Rayon Stocks

Stocks of rayon climbed steadily throughout 1956, from 83.2-million pounds in January to 120.8-million at the close of August, but tapered off to 109.4-million by October—an average increase of 41% over 1955 stock levels for the same period.

In 1957 —

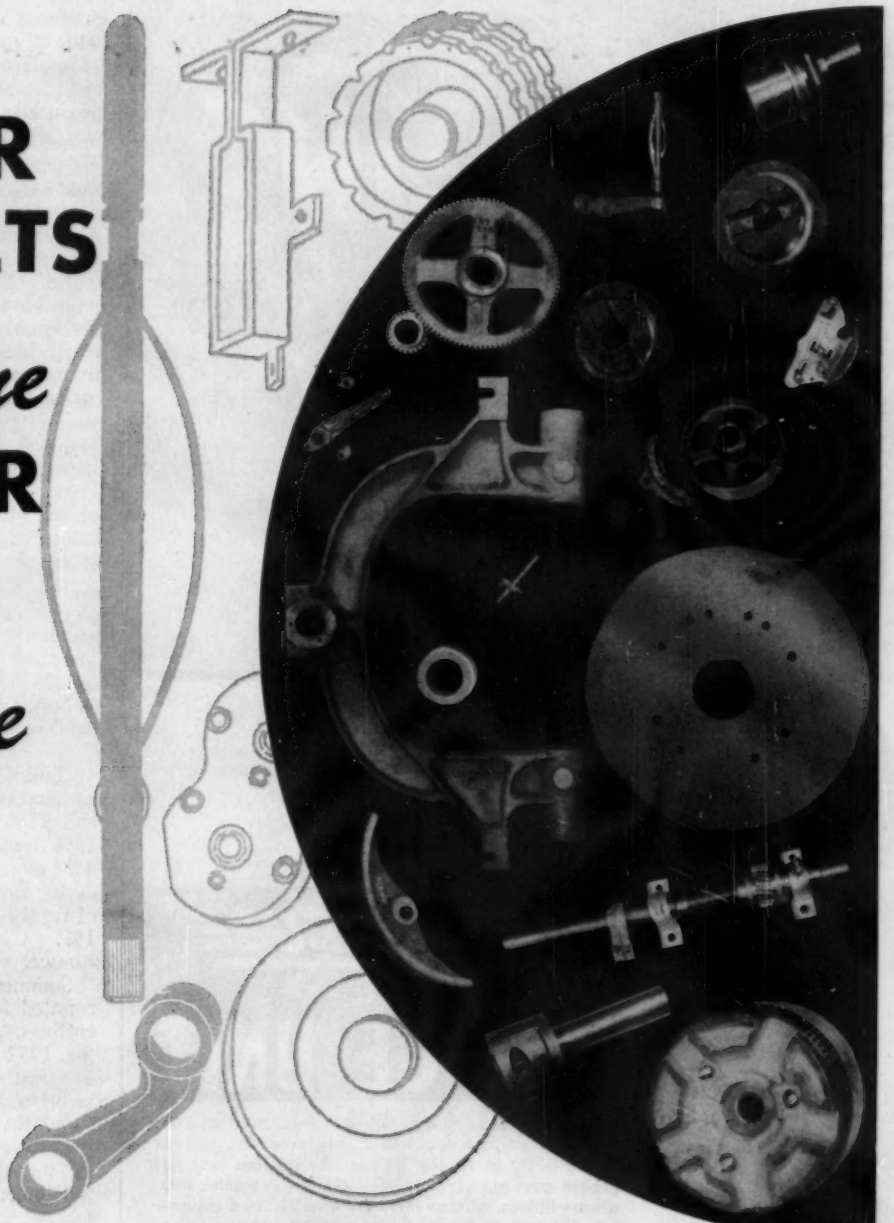
The vigorous synthetics output in 1955 made itself felt throughout 1956. Rising stocks and falling output keynoted the situation, particularly throughout the second and third quarters. Prices remained depressed and profit margins small.

A good deal of the readjustment, however, has already taken place; and the stage should be set for expanded activity in 1957. Barring unforseen problems arising from pending tariff cuts, 1957 output of synthetics should be 12% above 1956 levels.

Wool

An estimated 344-million yards of woven woolen and worsted goods were produced in 1956. This volume was 9% above the 310-million yards

GET BETTER RESULTS WITH *Genuine* REINER *Parts* AND *Service*



Reiner machines are built to give long, trouble-free service. When, however, replacement parts are needed BE SURE TO GET REINER-MADE PARTS—exact duplicates of original equipment.

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Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882.

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BALL BEARING
FLANGE UNIT

Now . . . Woods' brings you a flange unit that *you never lubricate*, because lubricant is sealed-in . . . Yes, sealed-in by us at *our factory*. This means that no grease guns are used by you. No dirt can enter thru grease fittings, *because there are none* . . . and remember dirt and dust are major causes of bearing wear.

Your worry about over-lubricaton, which results in over-heated bearing, is eliminated . . . and also, there is no chance of under-lubrication. All these features add up to reduced maintenance, because no time is spent periodically lubricating Life-Lube.

These bearings are of modern design, able to withstand substantial thrust and radial load, at high speeds. Bearings are MRC standard 200 series with wide, deep groove inner race.

Life-Lube flange units are available in sizes from ½" to 2 15/16". Write for further information, or consult your Woods' Industrial Distributor.

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produced during 1955 and compares with 279-million yards in 1954 and 338-million in 1953. Although still considerably below the 1950 level, production during 1956 gave added evidence that the declining trend in wool consumption has bottomed out.

Wool Consumption

Woolen and worsted mills used 231-million pounds of apparel wool (scoured basis) during the first nine months of 1956. This amount represents an increase of 8% over 1955 and marks the second consecutive yearly increase after a 56% decline from 1940 to the 1954 postwar low.

Consumption on both woolen and worsted systems was about equal. Worsted mills, however, exhibited a larger increase in activity over 1955. Production was running 12% ahead of last year on a nine-months basis, compared to a 4% gain in woolen spinning.

Clothing

The output (in yards) of men's and boys' woolen clothing during the first half of 1956 was 12% ahead of 1955 and some 47% over 1954. Worsted output was up 22%, while woolens were down about 1%.

During the first three quarters, 16.3-million suits were cut in 1956, an increase of about 3% over 1955 and 15% over 1954. An estimated 15% more summer-weight suits and 4% more overcoats were cut than during this period in 1955. Cuttings of regular-weight suits declined about 1%. Cuttings of separate woolen trousers were 2% below 1955.

Summer suits cut from wool accounted for 37% of all summer-suit cuttings, a substantial increase over the 1952 low of 29%. This trend is a further sign that wool is recapturing some of the area formerly lost to synthetics. A marked switch in preference toward heavier-weight fabrics was also in evidence during 1956.

Women and children's clothing fabrics woven from wool were up 14% from 1955 and 35% ahead of 1954. Worsted output advanced 36%, while woolens gained 10%.

Apparel use of wool in the first half of 1956 was up 10% over the same period in 1955. Nonapparel uses during the first half declined 21% compared to 1955.

Government orders for wool goods dropped off 69%, to 1.2-million yards, during the first half of 1956. This volume compares with 3.9-million during the same period last year.

Carpet Wool

Consumption of carpet wool in 1956 was estimated as 145-million pounds, about 14% ahead of 1955 and 28% ahead of 1954. Woolen mills also used an estimated 51-mil-

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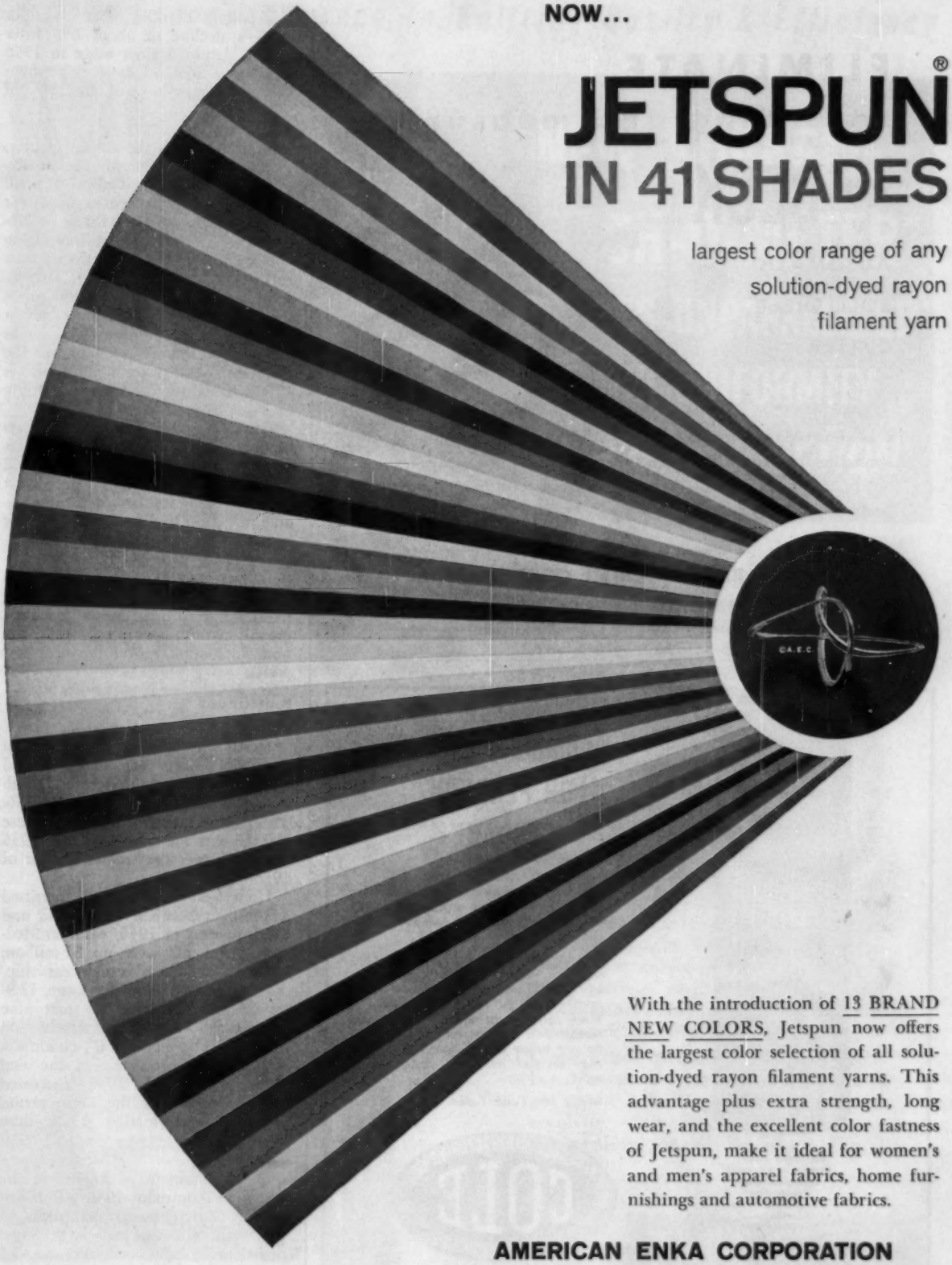
largest color range of any solution-dyed rayon filament yarn



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ROLL SHEET
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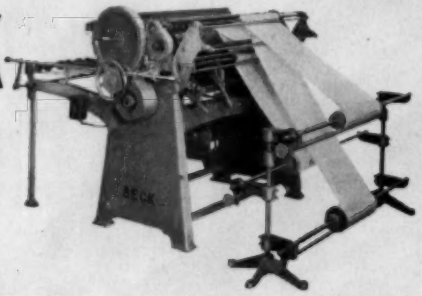

This versatile machine does away with measuring and spreading, *automatically*, in one operation. Less floor space—one operator—no errors—and high speed in addition. See how profitably it can fit into your operations. Write for catalog.

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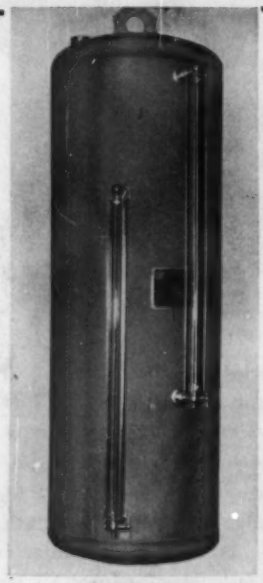

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NEWNAN, GEORGIA

lion pounds of other fiber in carpet yarn—a decline of about 6% from 1955. Man-made-fiber usage in 1956 was about 16% of total carpet-fiber consumption, compared to 20% in 1955.

Price of Wool

Beginning with the second quarter, prices of wool advanced substantially over 1955. In November, a small decline was experienced in prices for domestic descriptions. Prices in November, however, were still averaging about 10 to 15% higher than a year earlier.

Indications are that wool prices will remain relatively stable at about their present level during 1957. Stocks are moderate at all levels within the channels of distribution. Evidences of consumer reacceptance are strong and should be reflected at retail.

Curtailments in new-housing starts are one weak spot in the prospects for carpeting. This condition should not reflect itself until far into next year and will not be sufficiently sizable in nature to disrupt the generally favorable picture.

In 1957 —

Indications, therefore, point to an increase in wool volume during 1957 of about 6 to 7% and a sustained growth pattern (with only mild annual fluctuations) over the next few years.

Knit Goods

Underwear

Dollar shipments of knitted cotton and wool underwear, nightwear, and knitted shirts amounted to $121-million in the third quarter of 1956. This figure represents an increase of 11% over the same quarter of 1955 and 54% over the second quarter of 1956.

Underwear shipments increased $41-million between the second and third quarters of 1956, while knitted-shirt shipments were up $1-million.

Men's and boys' underwear shipments remained about the same, 12.9-million dozen, during the first nine months of 1956 as in the same period in 1955. Women's, girls', children's, and infants' underwear in the first nine months of 1956 increased 571,000 doz. over the same period in 1955 and totaled 13.2-million dozen.

Hosiery

Total shipments of hosiery in the first nine months of 1956 was 108.3-million dozen pairs, compared to 113.1-million dozen pairs in the same period of 1955.

Full-fashioned-hosiery shipments dipped to 32.3-million dozen pairs in the first nine months of 1956 from 35.0-million dozen pairs shipped in the

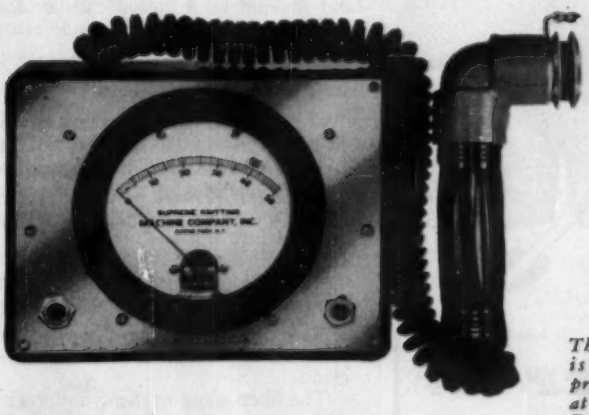
A Tremendous Advance In Knitting Quality & Efficiency

Accurately measures rate of yarn intake at each feed of any make stationary yarn stand machine and results in precise "matched feed" stitch setting. Accomplishes exact stitch uniformity *in a few moments time — while machine is operating under power—without any loss in production time.*

Speed detector is applied to yarn as it is fed into each feed; rate of yarn intake is registered on meter; while the machine operates, each feed is set to the identical dial reading.

This new Supreme engineering development opens a new era in knitting quality and mill efficiency.

1) Enables you to *insure absolutely uniform quality output* — stitch-to-stitch — yard-after-yard — machine-to-machine.
2) *Eliminates horizontal streaks* and all cloth damages caused by misaligned stitch setting.
3) Insures uniform yield — by simple calibration the meter reading may be used to check yield of fabrics *as they are being knitted.*
4) Increases output — machines never stopped to set stitches or check yield. The Stitch-O-Meter converts the time-consuming, difficult and inaccurate procedure of "marked yarn" hand stitch setting to a quick, simple and extremely accurate method. Instantaneously measures the intake rate of many, many yards of yarn being knitted under power rather than just the few yards measured under the old hand method.
5) One Stitch-O-Meter can handle any number of stationary yarn stand machines *of any make.* A Stitch-O-Meter for use with revolving yarn stand machines is now being readied for early delivery.



The Stitch-O-Meter is available for prompt delivery at $265.00 each, F. O. B. our plant.

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SK-183

*Patent Pending

picture from plant of LUISA SPAGNOLI Perugia, Italy —one of our foreign users

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The Head Knitter of an U. S. mill made this brief yet factual statement. Knitters in the know are quick to substantiate the comment, with good reason. The Tompkins record stands undisputed . . . over 110 years of proven money-makers to the Knitting Industry.

We see some Tompkins machines running that are 70 years old — still going strong despite their outdoted performance in comparison with new model Tompkins machines. It's like seeing an old Model T alongside a new '56 Ford! Let us help you put in a modernization plan.

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The Snap Type has all the advantages of its predecessor —virtually eliminates jack lever wear—stamped steel and case hardened cleats and rollers give triple length service—and roller bearings give you an exceptionally smooth rolling harness.

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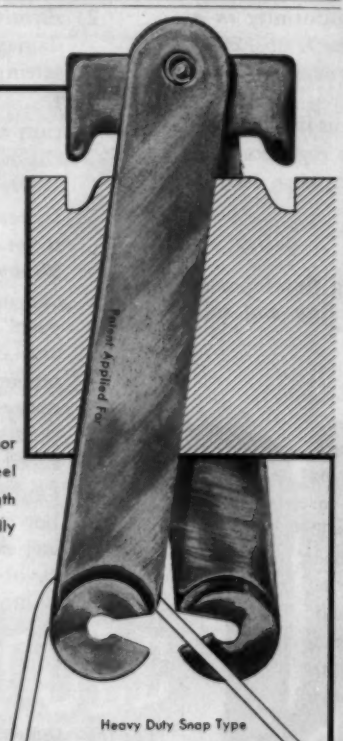


*Patent Applied For

Heavy Duty Snap Type

W. D. DODENHOFF CO.
INCORPORATED
GREENVILLE, SOUTH CAROLINA

same period of 1955. Women's seamless hosiery shipments were up to 10.6-million dozen pairs from 8.4-million dozen in the first nine months of 1955.

Men's socks declined again. For the first nine months of 1956, shipments were 38.8-million dozen pairs, compared with 43.3-million dozen in the same period of 1955. Women's anklet shipments were down slightly to 9-million dozen pairs.

Children's and infants' socks and anklets were down slightly from 17.7-million dozen pairs in the first nine months of 1955 to 17.4-million dozen pairs in the same period of 1956.

CARDING SYNTHETICS

CONTINUED FROM PAGE 112

whole blend given two more runs through the blending picker.

Don't apply more than 30% emulsion by weight, and allow for natural reworked wool stock in the blend that may contain emulsion. This method of blending may take more time, but it is worth the expense because of savings in later processes.

A single-action picker run at moderate speeds is best for fine wools or blends with synthetic fibers. While the Fearnaught-type picker does a more-thorough job of blending, its action is rough; and unless the doffing roll is clearing the cylinder, the fine, moist stock will roll and form pills.

Fine synthetic fibers become sticky if hit directly by emulsion spray or drops from the spray nozzles. The soaked fiber sticks to the card wire and loads the cylinders. It also sticks to the Peralta rolls and tears or breaks the web.

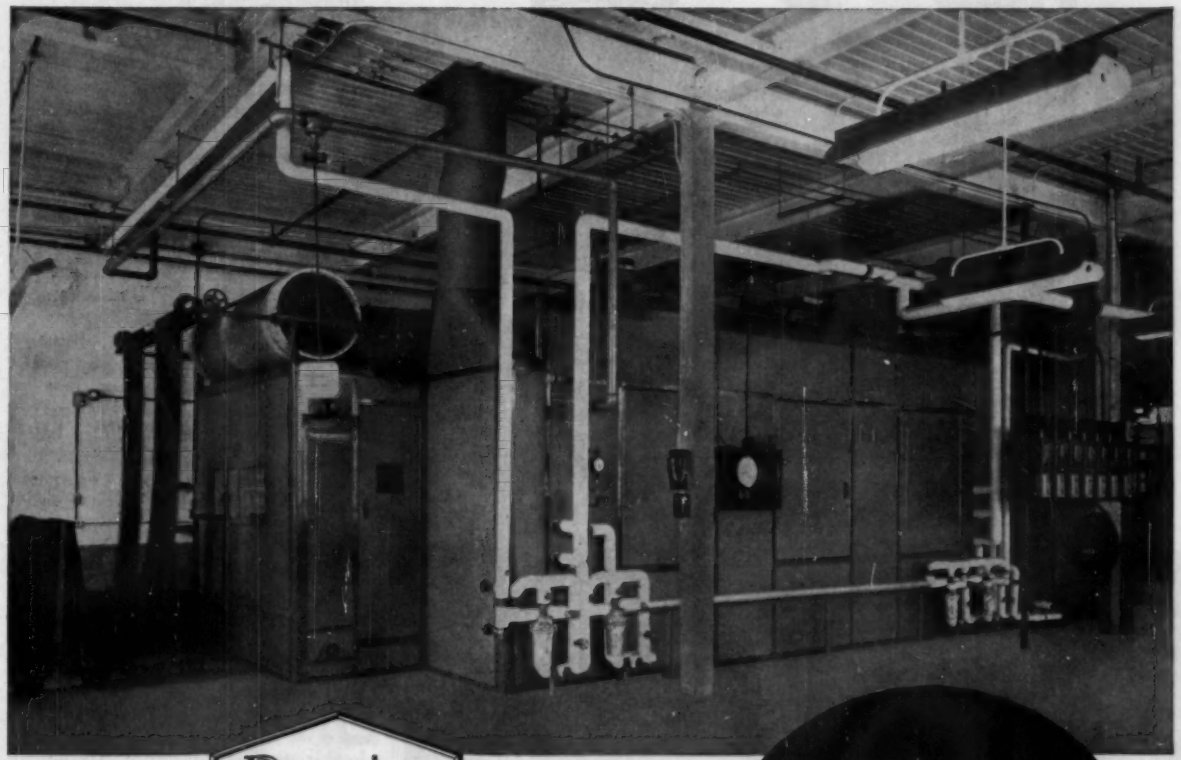
The fiber sticks to the dividing rolls on the tape condensor, which causes end breakage and heavy lumpy ends that do not break. The sticky fiber usually wraps the web around the bottom dividing roll and breaks one or two ends on both bottom decks. The operator should take off the spools and unwind these heavy ends or the roving may go through and cause faulty yarn and cloth.

Synthetics Help Spinners

The carder usually welcomes an addition of nylon, Orlon, or Dacron to the blend because of the superior spinning qualities of these fibers and the comparative ease of condensing the web into a round full-bodied roving. However, special attention must be given to these blends during carding because of the tenacity or cohesiveness of the fibers when as little as 10% synthetics are used in the blend.

The fibers cling to the cylinder wire with greater tenacity than the finest wools. More fancy action is necessary

CURE TEXTILE FABRICS AT A PROFIT!



Installation view of Proctor Loop Curer

THE Proctor

LOOP CURER and ROLLER CURER

These rugged, high-capacity machines feature the latest design and construction improvements—all geared to increase your profits. Units can be combined with existing equipment to meet your exact requirements. For fabrics that will not handle properly in loop, the roller curer is recommended. Recent developments for this machine also include improved air distribution, flexibility in holding capacity, and no-stretch operation. These machines are the result of long experience in supplying machinery to the textile industry. For the complete story of the profit-making opportunities offered by Proctor, write today for latest information bulletins.

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or the cylinders will load. A lively fancy with greater surface speed is necessary. Staple nylon offers more resistance to the action of the fancy than garnetted fiber.

Normal card settings of workers and doffers to the cylinder with a 26-card gauge are suitable for synthetics. Too-close settings may damage fine fibers. Sharp card wire with the points free of burrs from recent grinding is important.

Standard-type wire is suitable, but plated wire on the cylinders for fine synthetic blends is better. The cost is greater, but this smoother wire offers less resistance to the greater tenaciousness of the synthetic fiber to aid the fancy in lifting the web above the surface of the cylinder wire.

The secret of carding synthetics lies with the fancy. The wire must be springy, with lots of zip on the backlash when the points of the wire release contact with the cylinder. Fancy wire finer than No. 28 is unsuitable. A No. 28 wire 1¼ ins. long with straight tooth 58° pitch 3-3-4 with leather foundation makes a good fancy.

Double leather is better because it gives a firmer and more-uniform base for the wire. The leather should be of uniform quality and firmness throughout, with the wire set firmly in the leather.

Any soft spots will change the pitch of the wire when the filler is stretched on the fancy; so there will be high and low spots over the surface of the wire.

A needle-like point appears after service. These points should be ground off to restore the full working efficiency of this roll. A solid emery wheel is excellent for grinding of fancy wire.

When To Replace Clothing

Replace the clothing when the wire wears down to 1¼ ins. or less in length. New fancy wire should be on hand ready to install on short notice. Keep a pair of spare fancies ready to install on the card because grinding takes three or four hours.

Set the points into the cylinder wire about ⅛ in. because the function of this roll is not only to raise the stock off the points of the cylinder wire but also to keep the working points clear for the best carding action. When a spare or freshly ground fancy is installed, check both the fancy and cylinder after a brief run to be sure the newly installed roll functions properly.

For fine wool blends with synthetics, the surface speed of the fancy should be about 50% greater than the cylinder surface speed. For coarse

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Alaska Gray and
Seal Brown finish

ELIMINATE OVERRUNS

Warns operator or stops machine when run is completed. Yes — eliminates annoying underruns, too!

UNIFORM LENGTHS

Easy, accurate way to assure uniformity in lengths of cloth or yarn.

MAXIMUM PRODUCTION

A Durant Doffmeter takes the responsibility — operator can do other work.

Specifically Designed
for LOOM APPLICATIONS

The Durant Doffmeter is a compact, predetermined counter designed to cut off the loom or signal when the preset number of yards is reached. Eliminates cut marks and waste ends by assuring uniform yardage . . . simplifies inventory control.
Present day high costs make the installation of Durant Doffmeters on every loom a practical money saving investment. Plan now . . . write or contact us for detailed information.

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fiber blends, the excess speed of the fancy over the cylinder is about 30%.

For Dacron-wool blends, the cylinder speed should be 68 to 70 rpm. for 60-in.-dia. cylinders. Higher speeds up to 84 rpm. will help to raise the fine fiber out of the cylinder wire, but such speeds have a harsher action and there is actually no more carding. Settings of workers, doffers, and fancies should be the same as for all-wool blends.

For a 10%-nylon blend with reworked wool, reduce the card speed to 60 rpm.

EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 178

Batch Counter

A counter developed by B. F. Perkins & Son, Inc., Holyoke, Mass., records total yards in each roll produced on continuous-processing machines and retains the figure until the operator can record it.

The counter consists of two units, a counting unit and a measuring unit. When the machine is started, the grand-total counter and one of the batch counters commences to record yardage. When the first roll is cut off, the action of the knife mechanism stops the first batch counter and starts the second. After the operator has recorded the yards from the first batch counter, he resets this unit to zero to make it ready for the third batch.

The counters thus operate alternately to give individual batch records, while the grand-total counter indicates the day's run.

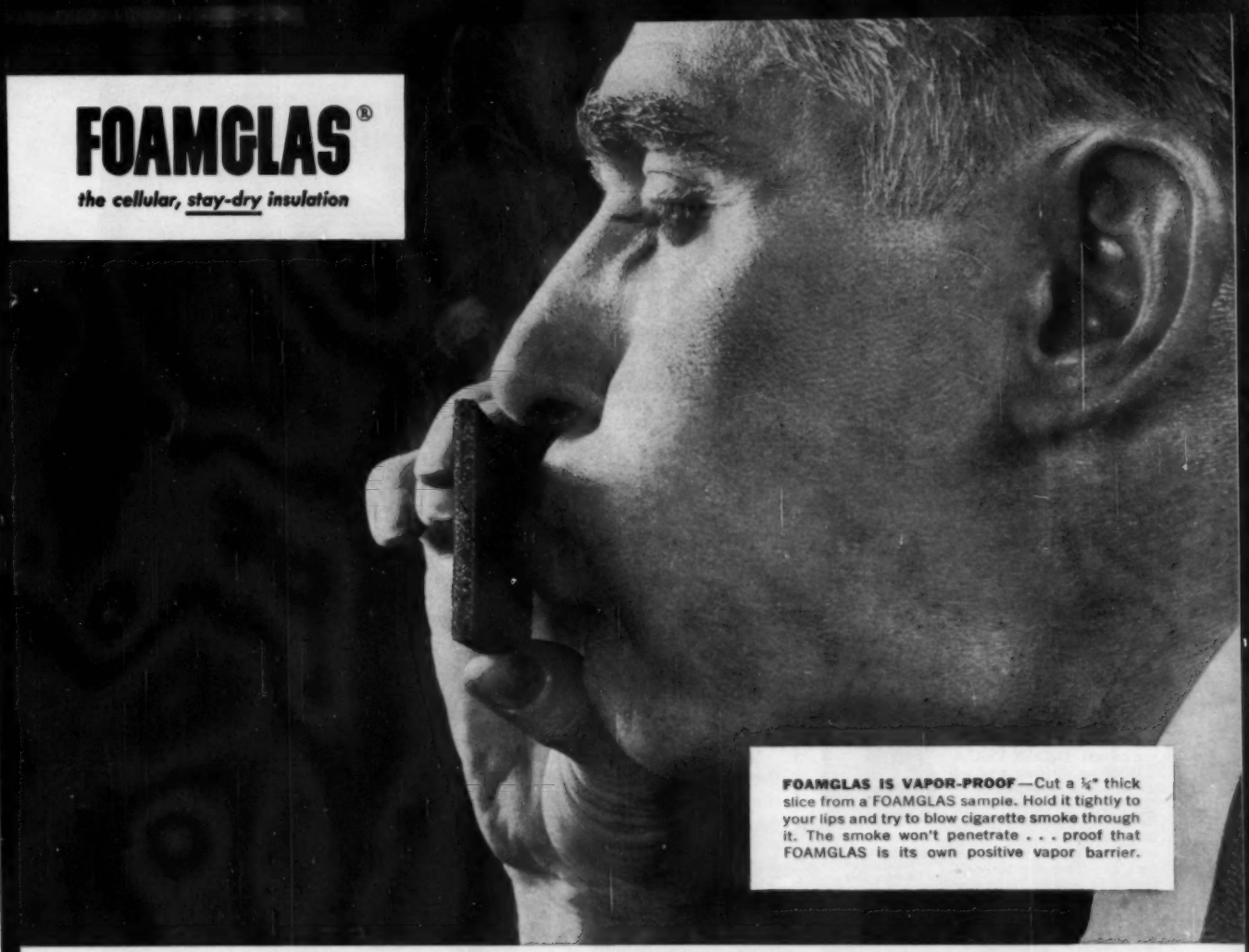
The measuring unit is placed in contact with a roll being turned by the material. Electrical impulses from this unit actuate the counting unit.

Circle T-20 on Reader-Service Card

CONTINUED ON PAGE 234

FOAMGLAS®

the cellular, stay-dry insulation



FOAMGLAS IS VAPOR-PROOF—Cut a ¼" thick slice from a FOAMGLAS sample. Hold it tightly to your lips and try to blow cigarette smoke through it. The smoke won't penetrate . . . proof that FOAMGLAS is its own positive vapor barrier.

Vapor can ruin ordinary insulations . . .

Prove to yourself that FOAMGLAS is vapor-proof!

Send for a sample and test it!

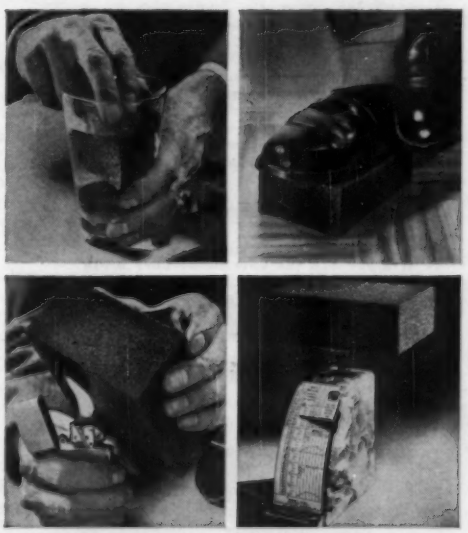
Nature exerts almost constant pressure to force heat and moisture vapor through a thermal insulation. Permeable insulations absorb that vapor. Even expensive vapor barriers cannot always insure absolute protection.

Once vapor enters an insulation —and condenses there—insulating value starts to nosedive . . . because moisture conducts heat. The *real* cost of a permeable insulation may multiply two or three times . . . in terms of lost insulating value and the resulting increase in heating and cooling costs.

That's why it pays to specify FOAMGLAS for true insulating economy. This unique all-glass insulation is naturally immune to vapor attack. Composed of millions of sealed cells, each a separate insulating unit, FOAMGLAS repels moisture in any form . . . liquid or vapor. Its insulating efficiency can never vary, and no costly vapor barrier is needed to protect it. Prove it to yourself with the simple test illustrated above.

In a few minutes, in your own office, you can test the whole combination of properties that makes FOAMGLAS unique among insulating materials. These properties have been proved not only by rigid scientific tests, but by hundreds of actual insulating applications. Send for a free sample and complete testing directions today. Address:

Pittsburgh Corning Corporation
Dept. AH-27, One Gateway Center
Pittsburgh 22, Pennsylvania
In Canada: 57 Bloor St. W., Toronto, Ont.



FOAMGLAS is waterproof . . . strong and rigid . . . inorganic and incombustible . . . lightweight

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For Brushes?

Jenkins' METLKOR Scrubber Brush

When Dewey and Almy Chemical Company developed their high-speed blanket printing process "DAREX VERSA-PRINT" a difficult problem arose. Colors picked up by the "DAREX" embossed blanket had to be removed with each turn around . . . colors that contained gums, resins, rubbers, etc. They had to be removed by solvents, detergents and high pressure water sprays at washing and drying speeds of 180 yards a minute. A special automatic machine, the "DAREX" washer was developed, in which seven specially designed Jenkins' METLKOR brushes are used.

The DAREX Model ND Blanket Washer Unit

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"It is difficult to imagine conditions more severe than for the first three scrubbing brushes in this machine," states Mr. H. H. Bailey, Sales Manager of Printing Products Division of Dewey and Almy Chemical Co., Div. of W. R. Grace and Co. "Temperatures range from 40° to 212°F. Vapors range from saturated steam to mixtures including high percentages of mineral and organic solvents, caustics and acids. At speeds up to 1300 rpm the brushes must not vibrate. Jenkins' brushes are more than equal to these requirements and provide long and satisfactory life."

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the original . . . the best Metal-Core Brush

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CYLINDER BRUSHES

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What You Can Do To Make Vacuum Pumps Run Better

An understanding of the simple principles of the vacuum pump will help you get the best results in vacuum processing. Fig. 1 shows the essential parts of most modern rotary vacuum pumps.

The shaft from the motor is A, and the driven member *B* is eccentric on the shaft; it fits within the piston *C*. As seen from this side, the piston rotates clockwise around the inside of the cylinder.

The Piston Acts As a Valve

Air from the vacuum system enters freely through a port at the position *Air in*. As the piston revolves, it acts briefly as a valve that closes this inlet port from the vacuum system and traps ahead of itself all air that has entered.

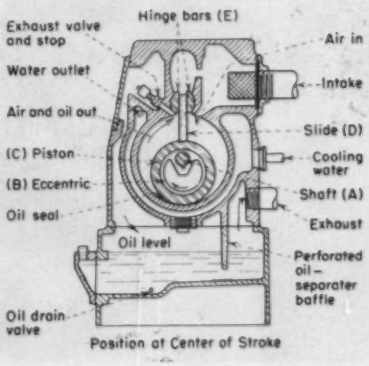
As the piston continues to rotate around the drive shaft and moves to the bottom of the cylinders, the slide *D* attached to the piston slides down through the hinge bars *E*, which oscillate in the pump body. And all new entering air is confined behind the piston and the side.

The previous charge of air from the system is pushed forward and upward with the bath of oil that seals the p ston. Air and oil are driven out of the cylinder at the point *Air and oil out*.

Air and Oil Work Together

The force of the expended oil and air opens the valve, and springs restore the valve plate to the closed position. Air and oil drop down to the base of the pump. From here, the air bubbles out of the oil and passes through an exhaust pipe to the atmosphere.

Each successive revolution of the piston drives out part of the air in



the vacuum system, and the pump chamber fills with more air at continuously lower pressure.

The air is never completely exhausted from the vacuum system, but a vacuum pump draws air out until practically none is left.

Mount the Pump Rigidly

The pump should be mounted rigidly on concrete or on a steel I-beam. It should be 6 to 10 ins. from the floor so that the oil can be drained easily.

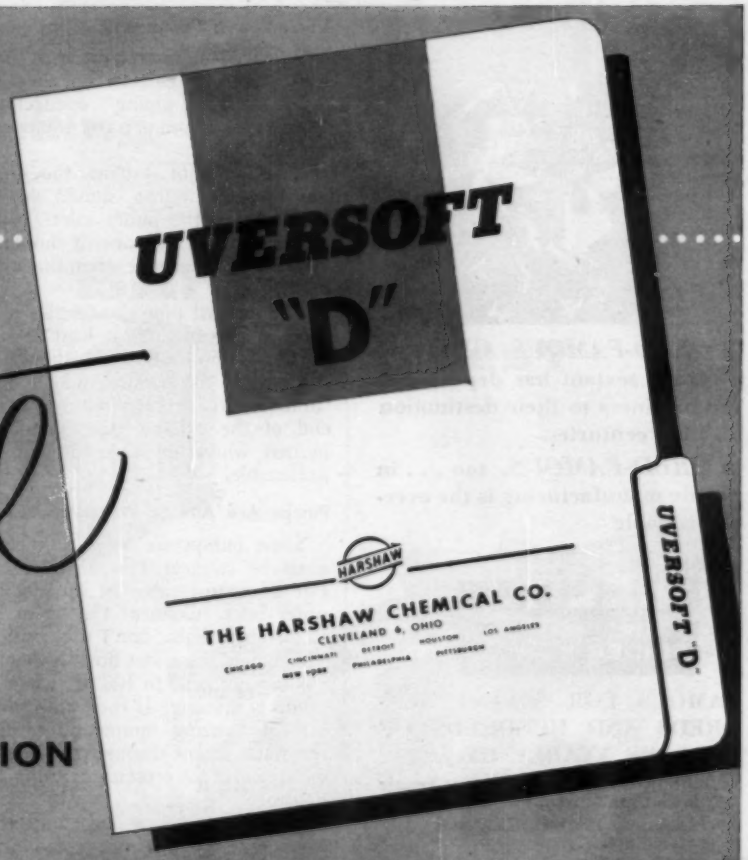
If a clarifier is used, it should be mounted at the same level of the pump and shimmed level. Ordinarily it doesn't have to be bolted. But if it is bolted, care must be taken not to distort the frame and bearing alignment.

Leave adequate space around the pump for convenience in servicing; usually about 2 ft. is sufficient. Except for the 2-ft. clearance, the pump should be as near as possible to the equipment to be evacuated so that the piping will be as short as possible and easily installed.

CONTINUED ON PAGE 234

write

FOR THIS HELPFUL INFORMATION



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UVERSOFT "D" is a cationic surface active agent which produces a full, soft hand with little, if any, reduction in moisture absorbency of the TREATED material. It can be exhausted from a long bath, and has an excellent retention in an aqueous system. UVERSOFT "D" provides a maximum economy in application and use.

UVERSOFT "D" is an outstanding anti-static agent. It should be considered for situations where the accompanying softening action is not objectionable.

Send for folder containing complete technical information.

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Company Name_____

Street Address_____

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The Harshaw Chemical Company

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. . . the sextant has dependably led mariners to their destination . . . for centuries.

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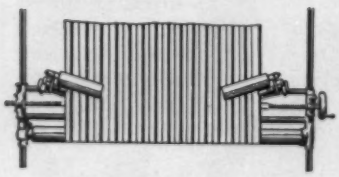
MECHO AIR GUIDER

FAMOUS FOR SAVING HUNDREDS AND HUNDREDS OF DOLLARS YEARLY BY

- **minimizing costly equipment repair "down-time"**
- **eliminating double edges and spattering**
- **speeding fabric processing**
- **preventing woven fabric spoilage**
- **maintaining cloth alignment and constant width**



Add to all the above advantages: no weights, levers, nor linkages to bother with, extremely low initial and operating costs, infinite adjustability to handle fabrics from the lightest to #8 duck, even in operation . . . then you'll understand why MECHO is considered the greatest buy in Guiders! *ORDER yours TO-DAY*. You'll wonder how you ever got along without it.

FREE! Write for Catalog and ask about MECHO's complete Guiding Service, standard in hundreds of finishing plants handling semi-rigid plastics, artificial leather and rubber, felt, and gauze. Stainless steel, acid- and moisture-resistant units with sealed bearings also available.

GUIDER **SPECIALTY COMPANY**
427 W. Rock Ave.,
New Haven 15, Conn.

Don't Run a Pump With Caps

Remove the protective caps from the intake and exhaust openings before making piping connections. Never run a pump until these caps are removed.

In all vacuum systems, the intake pipe to the pump should be no smaller than the pump inlet. If the intake line is a long one, it should be 50% larger in diameter than the pump inlet.

The exhaust pipe should also be as short as possible and at least as large as the pump outlet. It should be run outside the building with its end turned down to keep out rain. The end of the exhaust pipe should be located where oil vapor is not objectionable.

Pumps Are Air- or Water-Cooled

Some pumps are air-cooled; others must be connected to a water line. Put a control valve in the cooling-water inlet. Connect the waste line to an open drain; don't use a valve.

Regulate the water flow so that the waste water is 70 to 100° F. when the pump is running. If the pump stands idle at freezing temperatures, drain the water jacket through the housing drain valve to prevent cracking the housing.

All vacuum piping and connections must be tight. Piping should be as short as possible, and there should be as few connections as possible. Steel pipe and fittings should be clean and free of grease, oil, and scale. Welded joints are best.

Copper piping with sweated fittings and joints can be made extremely tight and make a good installation. However, iron (except cast iron) is fully satisfactory for pipes and fittings if properly installed.

Keep Piping and Joints Clean

Hammer and clean out iron pipe to remove scale and chips that may damage the pump. All pipe joints should have full, clean, sharp threads. They should be carefully doped, screwed up tight, and never backed off to make parts match.

To keep pipe dope out of the vacuum system, it should never be put (1) on any female threads or (2) on the first thread of any pipe.

If leaks in the system are suspected, paint the flanges, gaskets, sight glasses, and other joints while the system is under vacuum; and keep painting them until no paint is drawn in. Use a red crankcase paint. In principle, painting is not good but almost everyone does it.

Check Pumps by Schedule

On new systems:

1. Fill the oil to the correct level. It should be within 1 in. of the top of the filling hole or as indicated by the marker or sight glass.

2. Check the V-belts. A maximum play of 1 in. is good. If the play is more than 1 in., the belts slip; if the play is less, they overheat the bearings. Check them once or twice a day for a few weeks.

3. Check the foundation bolts every day during the first three weeks.

Most vacuum pumps are automatic, but they're not perpetual-motion machines. So: (1) check the oil level once a day, (2) check V-belts occasionally, (3) check foundation bolts once in a while, (4) wipe out the exhaust-valve chamber periodically on pumps with easily accessible valves, and (5) wipe off the base of the pump at the same time the exhaust-valve chamber is wiped. *F. J. Stokes Machine Co.*

EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 230

Knitting-Machine Cleaner

Conditioner-Formula C, introduced by Reading Testing Laboratories, Inc., Reading, Pa., is a product to remove rust and sludge and to prevent corrosion on full-fashioned and circular knitting machines.

The cleaner penetrates deposits that have accumulated a long time. Such inaccessible areas as clogged divider and sinker slots are cleaned, and press-offs and irregular stitches are reduced.

Formula C is noncorrosive to brass and steel parts and will scour without staining the fabric. Used once daily, the cleaner reduces needle and presser-edge wear. The cleaner is applied directly to the needles and other parts of circular machines, followed by an application of oil in 30 mins.

Circle T-21 on Reader-Service Card

Packaged Vaporizer

Designed to heat organic materials such as Dowtherm, Para-cymine, or Anisole, this Type MH series of factory-assembled units can be furnished to operate on gas, fuel oil, or special fuels. Manufactured by Union Iron Works, Erie, Pa., in capacities of 3,700,000 to 15,000,000 Btu. per hr., these vaporizers are useful where extreme heat at low pressure is required.

Circle T-22 on Reader-Service Card

CONTINUED ON PAGE 236

are you getting THE MOST out of your BARBER-COLMAN machines?

Any time is a good time to take a close look at your Barber-Colman Automatic Spoolers, Super-Speed Warpers, Warp Drawing Machines, and Warp Tying Machines—to see if they are continuing to deliver their original high performance. You have a substantial investment in these machines, and you are entitled to a continuing return on that investment. It would be a good idea to be sure that nothing in the *performance* of the machines is keeping you from getting that return.

MAY WE HELP YOU?

Our Service Department people are available to assist you in determining the operating condition of your machines and to indicate what, if anything, might be needed to put them at their peak of efficiency. The men who do this work are thoroughly experienced on all Barber-Colman machines. If you are interested in taking advantage of this service, just get in touch with your regular Barber-Colman representative, or write direct to the main plant.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U.S.A. MANCHESTER, ENGLAND MUNICH, GERMANY

INDIA	MEXICO	BRAZIL	JAPAN	PAKISTAN	PAKISTAN
Batliboi & Company Forbes Street, Fort Bombay, India	J. Rabasa Isabel la Catolica 45-913 Apartado 7348 Mexico D.F., Mexico	Quimanil S.A. Anilinas e Representacoes Rua Glicerio 537/547 Caixa 5658 e 3431 Sao Paulo, Brazil	Do-Yei Shoji Kabushiki Kaisha No. 7 Awajimchi 1-Chome Higashi-ku Osaka, Japan	Associated Agencies (M'cr.) Ltd. Piccadilly House 11 Piccadilly Manchester 1, England	Associated Agencies (M'cr.) Ltd. 27 Kothari Building Napier Road Karachi 2, Pakistan

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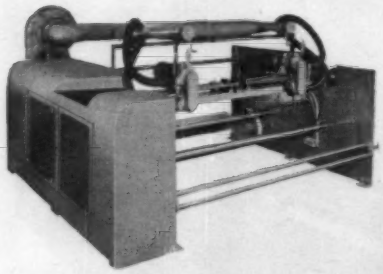
NOW EQUIPPED

with

PHOTO ELECTRIC EYE

SELVAGE SENSING DEVICE



HERMAS SELVAGE TRIMMER

for Plain and Textured Cloth

The Hermas Selvage Trimmer is now equipped with Photo Electric Eye Selvage Sensing Device so cloth with slack selvages can be trimmed without damaging selvage.

Cleans hanging ends from both selvages of cotton, synthetic woolen and worsted cloths at one pass through the machine. Speed up to 150 yards a minute.

The new Selvage Trimmer cleans textured, terry, and similar cloths as well as dress goods without touching the face or back of the goods.

A loop clipper attachment converts selvage loops to hanging threads for trimming.

The Selvage Trimmer may be combined with scrays, brushing machines, and other equipment.

Send us a piece of your cloth. We will be glad to clean it on the new selvage trimmer to show you the kind of work you can expect. No obligation.

Send today for four page illustrated folder describing and illustrating the new Hermas Selvage Trimmer.

HERMAS
MACHINE COMPANY
229 Royal Avenue
Hawthorne, New Jersey

DYEING QUALITY CARPETING

CONTINUED FROM PAGE 105

a battery of these machines that handle from 20 to 2,500 lbs. of yarn at one time.

For acid dyes, the bath is prepared with 10% Glauber's salt and 1 to 3% sulfuric acid, based on the weight of the goods. The bath is brought to a boil and the yarn lowered into the bath. This wetting-out period is for 15 mins.; then the dye is added and the bath is kept at the boil for 1 hr. Powerful propellers keep the liquor moving through the yarn. Flow may be reversed if it is necessary, but generally the flow is kept in one direction.

Dark shades may be let run for 90 mins. before checking. In all cases, the bath is checked for exhaustion and the yarn for shade after 1 to 1½ hrs. More acid or color or both may be required; then the goods are checked again after 30 mins. more at the boil. Usually the shade is matched at this point.

The Metachrome Method

Many shades and purposes require the extra fastness of chrome colors, and these dyes are used as follows:

The bath is made up at 110 to 120° F. with 1 to 3% of the chromate mordant, 1 to 3% of ammonium sulfate, and the necessary dye. The wet yarn is lowered into the bath and the temperature brought to a boil in 45 mins. After 30 mins. the shade is checked. If necessary for brightness, neutral-dyeing acid colors can be used in the same bath for topping the shade.

This plant makes tufted carpets from cotton, rayon, nylon, and rayon-nylon blends. For the cellulosic fibers, selected direct colors are used, aftertreated with resin-type products that don't contain copper; copper cannot be used where latex backing is applied.

Dyeing of the direct colors starts at 120 to 140° F., and the temperature is raised to a boil in 30 to 45 mins. Then salt is added, and the lot is run for 30 mins. and sampled.

The Rodney Hunt becks are stainless steel with perforated false bottoms. Color is introduced in the space between the beck proper and the false bottom, and live steam is shot into this space to help with color distribution while heating the bath.

Aftertreating methods vary with the fiber and the size of the rug. Very wide rugs—over 6 ft.—are usually aftertreated in the beck to improve colorfastness. Narrower rugs may be aftertreated in a pad.

Nylon-faced rugs are dyed with disperse colors. Dyeing starts at 120° F., and the goods are brought to a boil and let run 45 to 60 mins. before sampling. For dark shades, Irgalan colors may be chosen to get effects not possible with disperse dyes. With nylon, the time factor becomes important because it dyes more slowly than viscose or cotton.

This plant tumble-dries the smaller rugs and puts the room-width sizes through an Andrews & Goodrich single-pass dryer that is preceded by a pad and a vacuum slot to remove as much water from the rugs as possible. Antisoiling finishes are applied on the pad to many shades that would show dirt easily.

How Latex Is Applied

The latex-coating compounds are manufactured in a department that is a good-sized factory in its own right. The latex, bought by the tank-car load, is mixed with a variety of weighters, extenders, and curing agents to provide a suitable backing for the various types of rugs.

Coating is done on a two-roll coater developed at the plant. The rugs pass directly into a drying-curing oven and come out ready for final inspection and put-up.

The final test of a rug's appearance comes on the inspection floor, where the rug is laid out completely under a battery of lights that simulate home conditions as nearly as possible. Here the rug is looked at from every angle; only after it is in this position can slight faults be detected. If the rug passes the floor test, it is considered to be of first quality because previous inspections will have picked up any more-obvious faults.

EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 234

Floor-Drying Material

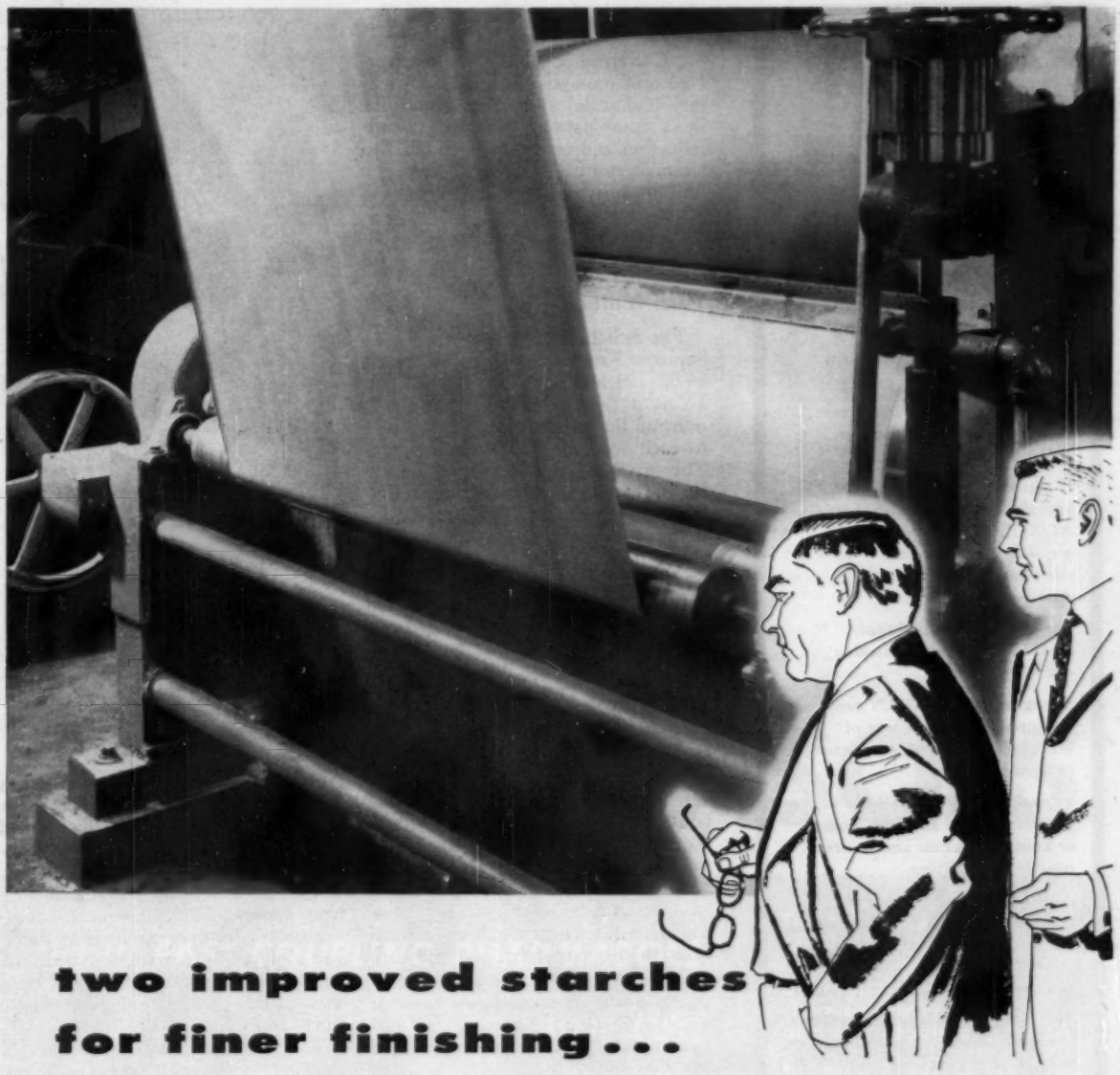
An improved industrial floor-drying material is distributed by The Eagle-Picher Co., 900 American Bldg., Cincinnati 1, Ohio. You just scatter the material over oil, water, or chemicals; and the liquid is quickly absorbed.

Circle T-23 on Reader-Service Card

Exhaust-Steam Purifier

A purifier for exhaust steam coming from engines, steam hammers, or other steam-operated equipment has been marketed by Steam Specialties Div., V. D. Anderson Co., 1935 W. 96th

CONTINUED ON PAGE 238



two improved starches for finer finishing...

for pure finish **Victor P-40-U** — brighter shades and whites . . . smoother hand

for backfill **Victor 10-55** — always uniform . . . carries more talc . . . more mellow hand

KEESTAR PRODUCTS

PLUS THE IMPORTANT INGREDIENT...KEEVER SERVICE

Charles C. Switzer, Vice President
TEXTILE SALES DIVISION
1200 S. C. NATIONAL BANK BLDG.
GREENVILLE, SOUTH CAROLINA

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO

Processors of corn, wheat and blended starches for industry since 1898

For more data, write this page number on Reader-Service card. →

IF

There's always an "if".
Even in metallic yarns—even in
the most expensive metallics!

Because *if* you cannot use
what you are paying for,
the most expensive yarns
can be the most wasteful yarns
for *you.*

If what you need is *viscose* yarn,
there is no reason to pay top
dollar for butyrate!

If you are working with
yarn dyed or loom finished goods,
ALISTRAN *is the best buy in*
metallic yarns that you
can possibly make!
And here's why . . .

For shining metallic beauty,
ALISTRAN is unsurpassable
—at *any* price.

Strength . . . ALISTRAN runs
unsupported without fear of
breakage . . . has twice the strength
of most metallics.

Versatility . . . ALISTRAN weaves
superlatively on any type loom
or knitting machine and insures
trouble-free quilling.

ALISTRAN insures economy
and greater profit. Why? Because
the *cost* of ALISTRAN is *less*
. . . *and* ALISTRAN unsupported
gives a gain in yield from 15-20%!

Also ALISTRAN is non-tarnishable,
mothproof and dry cleans like a
whiz. Free Samples are yours
for the asking.

Write, wire
or telephone us *now!*

IF *you need metallics*
—you need

ALISTRAN* by
MULTI-TEX
PRODUCTS CORP.
56 ELM ST., NEWARK 5,
NEW JERSEY
MARKET 3-1021

*Reg. U. S. Pat. Off.

CONTINUED FROM PAGE 236

St., Cleveland 2, Ohio. The receiver-type unit removes oil, shreds of packing, line scale, and other impurities by a combination of rapid pressure reduction and centrifugal action. The cleaned steam is then suitable for unit heaters and heat exchangers of various types.

Circle T-24 on Reader-Service Card

Yarn Meter

The Stitch-O-Meter introduced by Supreme Knitting Machine Co., Inc., 94-02 104th St., Ozone Park 16, N. Y., is a device that will accurately measure the speed of yarn as it is fed to each feed of a knitting machine. The machine operator can quickly set the stitches uniformly on stationary yarn-stand machines to produce uniform fabrics and eliminate horizontal lines.

The device is used while the machine is operating; so no production time is lost. The instrument permits the operator to make quick and constant checks on the weights of fabrics being knitted to insure uniformity of yield. The device also results in cloth with less damages because it eliminates damages caused by misaligned settings.

The meter is operated by battery power. The battery is contained in a case, which is hung over the operator's shoulder. A dial on this unit records the speed of the yarn as the yarn revolves a wheel on the yarn-wheel unit. The latter unit is held close to the yarn feed, and the yarn is threaded over the measuring wheel.

Circle T-25 on Reader-Service Card

Speed Reducers

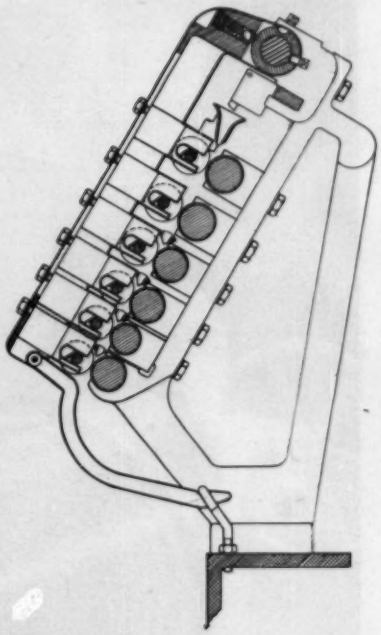
Shaft-mounted speed reducers that will handle from 1.3 to 60 hp. at output speeds of 12 to 365 rpm. have been announced by Dodge Mfg. Co., Mishawaka, Ind. The units feature simple installation that does not require any foundation, flexible couplings, or sliding bases. Built-in back stops can be supplied if necessary, and automatic overload release gear is available.

Circle T-26 on Reader-Service Card

Noiseless Vacuum Cleaner

A noiseless vacuum cleaner is being produced by Ponsell Floor Machine Co., Inc., 220 W. 19th St., New York, N. Y. The portable machine removes dry materials and liquids such as water, soapsuds, etc.

Circle T-27 on Reader-Service Card



Fine-Yarn Direct-Spinning Frame

A direct-spinning frame that drafts 31 to 250 on 5s to 40s carded yarns and 160 to 350 on 32s to 70s combed yarns is being marketed by Soc. Nastrofil, Bergamo, Italy.

The machine, which spins directly from drawing sliver, has a six-roll drafting system for finer numbers or a five-roll system for coarser numbers. A special four-over-five drafting system is available for spinning synthetic fibers from 3 to 4¾ ins. long.

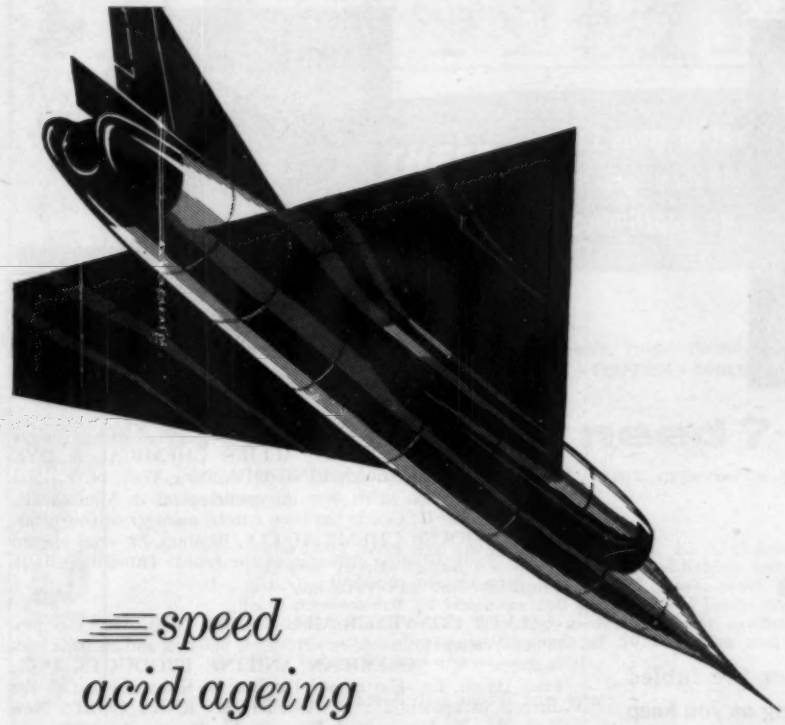
The frame is fed from bicoiled drawing in 9- or 12-in. cans. The smaller cans are used with the two-sided frames and the larger cans with one-sided frames. Steps are attached to the sides of the frames for the operator to stand on while piecing up ends.

Circle T-28 on Reader-Service Card

Roof Sealer

A liquid neoprene for sealing roofs covered with composition materials is being offered by Gates Engineering Co., Inc., P. O. Box 1711, Wilmington, Del. The material is mopped over the existing roof and bonds the shingles in place. It also stops curling and loosening of shingles. The coating is fire-resistant and is available in 1- and 5-gal. cans in aluminum, red, green, gray, and slate-black colors.

Circle T-29 on Reader-Service Card



speed
acid ageing
for **PHARMASOLS***

For use in recently developed high acid steam volume, 10-20 second acid agers.

new **FAST COUPLING PHARMASOLS**

PHARMASOL BLUE GFC

PHARMASOL RED GFC

PHARMASOL YELLOW GFC

PHARMASOL SCARLET SFC

No increase in price . . . no change in formula

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The following regular Pharmasols and Pharmol types, because of their chemical nature, are also fast coupling.

- Pharmasol Orange RN
- Pharmasol Scarlet RR Conc.
- Pharmasol Red 2BN
- Pharmasol Bordeaux BN, GP
- Pharmasol Violet B
- Pharmasol Brown 2GA, IPT
- Pharmasol Seal Brown
- Pharmasol Black AB double, C Double, GAR Conc, JA Conc GG Double, PA Double
- Pharmol Red ITR
- Pharmol Navy Blue F
- Pharmol Blue 2B
- Pharmol Green GN

PHARMA CHEMICAL CORPORATION PLANTS BAYONNE, N. J.

PHARMA

CARBIC COLOR & CHEMICAL CO. INC. 451 WASHINGTON STREET, NEW YORK 13, N. Y

SOLE SELLING AGENTS FOR PHARMASOLS, PHARMOLS • DIRECT SELLING AGENTS U.S.A. & CANADA PHARMA PRODUCTS

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CROMPTON RICHMOND COMPANY INCORPORATED FACTORS

The Factoring Cornucopia

Crompton Factoring resembles the fabled cornucopia in one respect: as long as you keep shipping we keep turning your receivables into daily cash. That source never runs dry on you. And our resources are so large that never once — since we have been in this business — have the demands for cash ever fully taxed these. Thus we are a never failing source for those who must stay liquid if they are to stay in business.

It is a simple system. We not only turn the receivables into cash, but we do so without recourse: you are off the credit risk hook. We make a credit department and a receivable bookkeeping set-up unnecessary; and we do all the chores involved in collections.

CROMPTON COMPANY 1807 1957 150th ANNIVERSARY

The Human Factor

CROMPTON-RICHMOND CO., INC.
1071 Avenue of the Americas, New York 18

Crompton-Richmond-Joel Hurt Co.
Glenn Building, Atlanta 1, Georgia

NEWS about SUPPLIERS

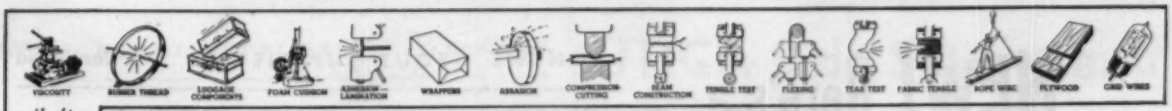
ACME STEEL CO., Chicago, Ill.—Has moved to new offices at 135th & Perry Ave. . . . **ALLIED CHEMICAL & DYE CORP., NATIONAL ANILINE DIV.**, New York, N. Y.—Has started production in its new isocyanates plant in Moundsville, W. Va. Louis C. Goode has been named manager of this plant. . . . **ALTHOUSE CHEMICAL CO.**, Reading, Pa.—Has elected Dr. C. Scott Althouse chairman of the board. Howard F. Bjork has been elected president.

ALVEY CONVEYOR MFG. Co., St. Louis, Mo.—Has promoted Walter H. Oswald to advertising manager and assistant sales manager. . . . **AMERICAN ANILINE PRODUCTS, INC.**, Lock Haven, Pa.—Has named Dr. Ben H. Kirby assistant to the director of operation. . . . **AMERICAN ENKA CORP.**, New York, N. Y.—Has named Kenneth N. Bacon advertising and sales promotion manager. William M. Pomeroy, Jr., has been named a member of the industrial sales staff.

AMERICAN VISCOSE CORP., Philadelphia, Pa.—Has named Robert J. Ridgway to the Market Development Dept. of the Film Div. . . . **APEX CHEMICAL CO.**, Elizabeth, N. J.—Has appointed Archie Chevrette technical representative in the New England area. . . . **ATLANTIC STEEL CO.**, Atlanta, Ga.—Has elected Robert S. Lynch chairman and chief executive officer. Howard B. Johnson has been elected president. . . . **BRISTOL CO.**, Waterbury, Conn.—Has opened a new branch factory and warehouse in Houston, Texas.

CHEMSTRAND CORP., Decatur, Ala.—Has named Thomas L. Rusk, Jr., to the technical sales service department. . . . **COOK-P&N MACHINE CO., INC.**, Boston, Mass.—Has moved its plant to Nashua, N. H. The company name has been changed to Cook Machine Co., Inc. . . . **CUSTOM SCIENTIFIC INSTRUMENTS, INC.**, Kearny, N. J.—Will manufacture the gas transmission unit designed by the Plastics Technical Service Laboratory of Dow Chemical Co.

WILLIAM H. VAN HORN (left) has been named sales manager for Horace T. Potts Co., Speedline Stainless Steel Fittings Div., Philadelphia, Pa. AMOS L. RUDDOCK (center) has been named sales manager of Dow Chemical Co., Textile Fibers Dept., Midland, Mich. JOSEPH A. BAILEY (right) has been named to the sales staff of Fairbanks Co., New York, N. Y.



ALL THESE TESTS don't apply to textiles, but all (well, practically all!) textile tests can be accomplished on SCOTT TESTERS*!

TENSILE (single fiber, yarn in single end, or skein, twine, thread, cord) • **SEAM CONSTRUCTION** • **FABRIC** • **TEAR** • **HYSTERESIS** • **TWIST** • **CREPEAGE** • **ADHESION** • **FLEXING** • **BURST**

What is your need?

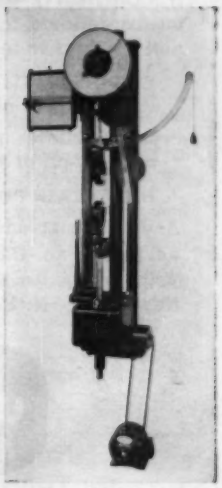
State your problem and let our 57 years experience go to work solving it.

Since 1899 Scott has worked with A.S.T.M., U. S. Government, ISO and Textile Industry committees in establishing test standards and providing test equipment. In 57 years, Scott Testers* have transcended all language and geographical limits and have become the universally accepted medium of test methods and evaluations, with users in upwards of 50 countries and nearly 40% being shipped export each year.

Let our knowledge work for you!

*Trademark

SCOTT
TESTERS, INC.
95 Blackstone St., Providence, R. I.



MODEL J
World's most widely used tensile tester. 0 to 500 lbs. tensile

ONLY BORNE HAS IT!

Identification
on All Synthetics—Blends

Plus FUGITIVITY
UNMATCHED
ON NYLON & WOOL!

The Amazing New

SOLUTINTS

SOLUTINTS are a series of fugitive tints that provide identification, lubrication, and improved processing of all natural and synthetic fibres. In addition to giving *maximum tinctorial strength* — SOLUTINTS combine controlled moisture retention with *improved scourability*.

Contact
BORNE CHEMICAL COMPANY, INC.
82 Years of Textile Know-How
Formerly BORNE, SCRYMSER COMPANY
Elizabeth, N. J. • Charlotte, N. C.

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NEW! Here's a solvent cleaner just perfect for textile mills

It's Oakite 117 – a cold cleaning solvent that's custom-tailored for use on looms, twisters, reed parts and other textile equipment.

CLEANS FAST. Especially effective on combinations of lint, grease, oil and smut.

DRIES DOWN quickly and completely under air blow-off or wiping.

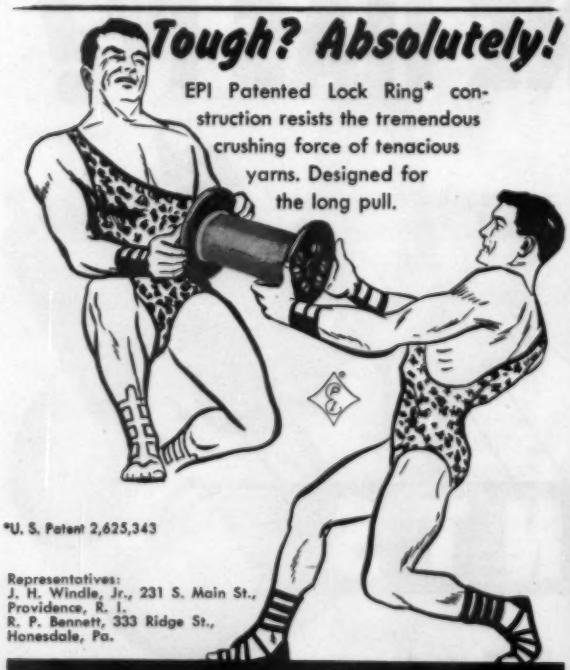
HIGH FLASH POINT. You get safety to spare.

And low cost adds a straight dollars-and-cents advantage to Oakite 117. Want more details? Write to Oakite Products, Inc., 42 Rector St., New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING
OAKITE
MATERIALS · METHODS · SERVICE
SCIENCE

Export Division Cable Address: Oakite

Technical Service Representatives in Principal Cities of U. S. and Canada


Tough? Absolutely!
EPI Patented Lock Ring* construction resists the tremendous crushing force of tenacious yarns. Designed for the long pull.

*U. S. Patent 2,625,343

Representatives:
J. H. Windle, Jr., 231 S. Main St., Providence, R. I.
R. P. Bennett, 333 Ridge St., Honesdale, Pa.

ENGINEERED Plastics
INCORPORATED
Gibsonville, North Carolina

PETER H. CONZE (left) has been named director of textile marketing at Celanese Corp. of America, New York, N. Y. JOHN W. BROOKS (center) has been named general manager of Celanese's Textile Div. GEORGE N. HOUTH (right) has been named a sales representative for Metro-Atlantic, Inc., Centredale, R. I.

JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J., and AMERICAN CRAYON CO., Sandusky, Ohio—Have merged their operations. Both companies will continue their operations without change. . . . FOXBORO CO., Foxboro, Mass.—Has opened an instrument service shop in Atlanta, Ga.

GENERAL ANILINE & FILM CORP., New York, N. Y.—Has named James A. Travis general sales manager of the Ozalid Div. Louis E. Rampp has been named manager of branch operations and Hugh R. Silbaugh has been named manager of distributor operations. . . . HEWSON CO., Newark, N. J.—Has named the following as sales representatives: Thomas H. Closs, Towson, Md.; Dittman & Greer, Inc., Middletown, Conn.; Honolulu Electrical Products Co. Ltd., Honolulu, Hawaii.

HEYDEN CHEMICAL CORP., New York, N. Y. . . . Has acquired Newport Industries, Inc., New York, N. Y. The company name has been changed to Heyden Newport Chemical Corp. . . . HOOKER ELECTROCHEMICAL CO., OLDBURY DIV., Niagara Falls, N. Y.—Is expanding its plant near Columbus, Miss. to produce additional sodium chlorate.

INTERCHEMICAL CORP., New York, N. Y.—Has elected William J. Rothemich a vice president. . . . JOHNSON SERVICE CO., Milwaukee, Wis.—Has elected John H. Colby vice president and general sales manager. . . . METLON CORP., New York, N. Y.—Has formed Metlon Ltd. for the manufacture and sale of Metlon yarns in Great Britain and other Western European countries.

GUY T. AVERY (left) has been elected president and chief administration officer of Acme Steel Co., Chicago, Ill. JOHN P. NORMAN (center) has been named sales representative for R. E. L. Holt, Jr., & Associates, Inc., Greensboro, N. C. ERVIN J. KOERNER (right) has been named sales agent for Tyer Rubber Co., Rubber Covered Roll Div., Andover, Mass.

MORNINGSTAR, NICOL, INC., New York, N. Y.—Will triple its natural-gum and specialty-starch processing with a new plant in Hawthorne, N. J. Edwin M. Hillary is in charge of operations.

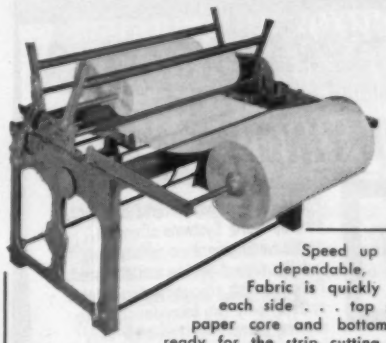
NATIONAL STARCH PRODUCTS, New York, N. Y.—Has acquired Granite Boards, Inc., Goffstown, N. H. . . . **SHARON STEEL CORP., BRAINARD STEEL DIV.,** Warren, Ohio—Has opened combined sales offices and warehouse facilities in Charlotte, N. C., and Atlanta, Ga. . . . **OWENS-CORNING FIBERGLAS CORP.,** Toledo, Ohio—Has appointed Paul L. Layton national aircraft engineering representative for the Textile Products Div. Robert T. Stevens and Howard J. Morgens have been elected to the board. . . . **JOSEPH T. RYERSON & SON, INC.,** Chicago, Ill.—Has named Alfred J. Olsen general sales manager.

THOR POWER TOOL CO., Aurora, Ill.—Has opened a branch office in Richmond, Va. Kenneth V. Bennett has been named manager of the new office. . . . **WILDMAN-JACQUARD CO.,** Norristown, Pa.—Has announced the retirement of Frederic E. Paul, former vice president and manager.

RAY DOLLAR (left) has been named a representative for Warner Electric Brake & Clutch Co., Beloit, Wis. CHARLES A. WILLIAMS (center) has been named vice president in charge of sales for Johnson Bronze Co., New Castle, Pa. LEE F. SAMLER (right) has been named vice president and general manager of Saran Yarns Co., Odenton, Md.

LESTER B. GORDON (left) has been named to head sales of the Solvay Process Div., Allied Chemical & Dye Corp., New York, N. Y. JOHN HENRIKSON (center) has been appointed vice president in charge of sales at Graton & Knight Co., Worcester, Mass. STUART H. SMITH (right) has been elected vice president in charge of sales at SKF Industries, Inc., Philadelphia, Pa.

UTICA Side Slitting and Re-Rolling Machine



for Tubular Knitted Fabrics

Speed up production with this dependable, fast-action machine. Fabric is quickly and cleanly slit on each side . . . top rolled firmly on one paper core and bottom on another . . . ready for the strip cutting machine. Speed is 50 yards a minute or faster.

Mechanical Features: Crushing cutters easily cut any kind of fabric. Built-in adjustable spreader takes all size rolls from 7" to 35" (wider machines to order). Ball bearings sealed in grease on cutter drive shaft, toggle shafts, and in blades. All roll shafts lubricated by zerk system. Can be furnished with motor drive or counter shaft drive.

If you want to do a faster, more efficient side slitting and re-rolling job, THIS IS THE MACHINE YOU CAN'T AFFORD TO BE WITHOUT!

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IMPORTANT MEMBERS OF YOUR PRODUCTION TEAM . . .

Made by experts . . . after years of careful research . . . EMPIRE TEXTILE MILL CRAYONS meet the industry's most exacting requirements for textile marking and identification.

Every year, millions of these top-quality marking crayons join the production teams of textile mills across the nation.

Marking counts in efficient production. Count on EMPIRE TEXTILE MILL CRAYONS . . . First choice of textile experts everywhere! *Free marking guide gladly sent. Dept. T-8*

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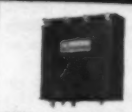
for your convenience / SPRAY NOZZLES
and all related accessories for
HUMIDIFYING / from a single, dependable source

PRECISION PNEUMATIC ATOMIZING NOZZLES

ACCESSORIES SUCH AS AIR FILTERS, HUMIDISTATS, SOLENOID VALVES, PRESSURE REGULATORS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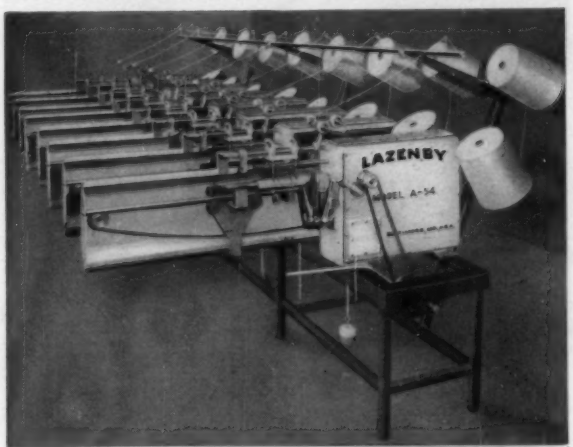
ADVANCED SPRAY NOZZLE DESIGN FOR NEW DIMENSIONS IN CONTROL AND PERFORMANCE



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New Automatic Winder by Lazenby, Model A-54 winds cops of maximum yardage from 8" to 22" long and 1 1/8" to 2" in diameter.

- labor saving
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- quick adjusting
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The F. A. LAZENBY Company
3106 ELM AVENUE BALTIMORE 11, MD.

NEWS about MILLS

COTTON MILLS

Bates Mfg. Co., Lewiston, Me., has purchased the Lynchburg, W. Va., plant of Consolidated Textiles, Inc.

Chicopee Mfg. Corp., Chicopee, Ga., has installed 22,704 SMM roller-bearing spindles.

Dalton Textile Corp., Dalton, Ga.—All stock in this company formerly owned by John McClellan has been sold. The company name has been changed to Dalton Yarn Mills. Officers are: Robert F. Hamilton, president; Tom Lambert, vice president; Wells Moore, secretary-treasurer; George Hanson, general manager.

Hyde Park Mills, Covington, Tenn., is building a 15,000-sq-ft. warehouse. The cost is $45,000.

Pacolet Mfg. Co., Gainesville Plant, Gainesville, Ga., has installed 30,000 SMM roller-bearing spindles.

Robinson Thread Co., Worcester, Mass., has started a $500,000 expansion program in a newly acquired building. A dyehouse and new equipment will be installed.

West Boylston Mfg. Co., of Alabama, Montgomery, Ala., has completed the installation of an additional 10,000 spindles.

J. W. Wood Elastic Web Co., Shelby, N. C., is building a 33,000-sq.-ft., one-story building.

WOOLEN AND WORSTED MILLS

Hightstown Rug Co., Hightstown, N. J., is building an addition to its mill that will be used for warehousing and shipping. Space formerly used for this operation will be used to expand the weaving facilities.

Peerless Woolen Mills, a division of Burlington Industries, Cleveland, Tenn., is building a 400,000-sq.-ft. plant. New machinery includes 24 sets of carding machines. Operations are expected to start this summer.

Sackville Mills Co., Wallingford, Pa., has opened a division in Shelby, N. C., to make interlinings.

SCHWARZENBACH HUBER CO. recently completed this 18,000-sq.-ft. addition to the Front Royal, Va., plant. Located in the new addition are the offices, warehousing and shipping departments, preparatory operations, and fabric inspection.

SYNTHETICS MILLS

Amerotron Corp., Aberdeen, N. C., is building a new 22,000-sq.-ft. office building.

Burlington Industries, Gastonia, N. C., has changed the name of the Flint No. 1 mill to the R. C. G. Love mill. At the Lexington Rayon Plant, Lexington, N. C., the company is building a 62,000-sq.-ft. addition. Completion is expected in April.

Hyde Park Mills, Covington, Tenn., has completed a 15,000-sq.-ft. warehouse. The cost was $45,000.

Oak River Mills, Bennettsville, S. C., will build a 150,000-sq.-ft., one-story plant. The new plant will make synthetic-fiber and blended carpet yarns.

Southern Woven Label Co., Inc., Columbus, N. C., has started building a new warehouse.

Woodside Mills' Haynsworth Mill, Anderson, S. C., is installing an air-conditioning system.

KNITTING MILLS

Alba Hosiery Mills, Inc., Valdese, N. C., has taken over the operation of Pons Full-Fashioned Mills, Valdese. There will be no change in the present operation.

Robert Bruce Co., Philadelphia, Pa., is installing new machinery.

Burlington Mills' Marion Plant, Marion, Va., has changed its name to Grove Furr Hosiery Co.

William Carter Co., Barnesville, Ga., has started a $500,000 expansion program. The additional space will house the printing plant, knitting, and bleaching equipment.

Clarke Mills, a unit of Vanity Fair Mills, Inc., Jackson, Ala., is planning an expansion program.

Foster Hosiery Mill, Inc., Burlington, N. C., has discontinued operations.

Industrial Hosiery Mills, Mohnton, Pa., has discontinued operations.

Jantzen, Inc., Seneca, S. C., is planning an expansion program that will double its present production.

London Knitting Co., Philadelphia, Pa., has moved to its new location at Jasper & Butler Sts. New equipment has been purchased for the plant.

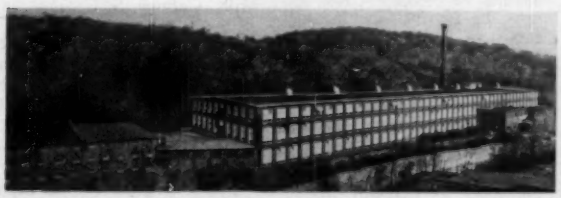
Rutland Knitting Mills, Brooklyn, N. Y., has moved to 673-683 Livonia Ave.

Sternwild Knitting Mills, Yonkers, N. Y., is moving to a new plant in Ballston Spa, N. Y. The new three-story plant contains 20,000 sq. ft.

DYEING AND FINISHING PLANTS

Dye Masters, Inc., Los Angeles, Calif., has started operations in its new plant.

Burlington Industries, Greensboro, N. C., has formed Burlington Finishing Corp. to do commission dyeing and finishing. The new company will operate Dublin Finishing Co., Dublin, Va., Old Dominion Finishing Co., Altavista, Va.; Greensboro Finishing Co., Greensboro, N. C.



FITCHBURG YARN CO., Fitchburg, Mass., recently celebrated its 50th anniversary. The company currently is working with blends of synthetic and natural fibers.

How Metallizing saves money in textile mills

cuts machine repair costs 80%—
cuts equipment "down-time"—
permits reduced spare parts stocks

Practically any worn machine part—repaired for only 15 or 20% of replacement cost—in minutes and hours, instead of days or weeks.

Worn Equipment and Parts

Drive shaft journals	Top rolls, necks and centers
Roll journals and surfaces	Slasher roll surfaces and journals
Spindle tops and whorls	Blanket roll journals
Calender rolls and journals	Sand roll surfaces and journals

The list of metallizing users in the textile field reads like a Blue Book of the industry. Here are just a few:

Cannon Mills	Deering-Milliken	Bib Mfg. Co.
Dan River Mills	Greenwood Mills	Bruck Mills (Canada)

For further information write for special free bulletin "Whip Waste with Metallizing in Textile Plants."

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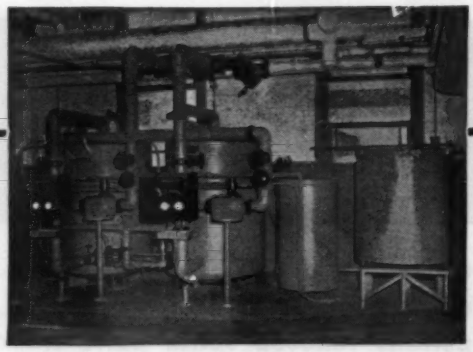

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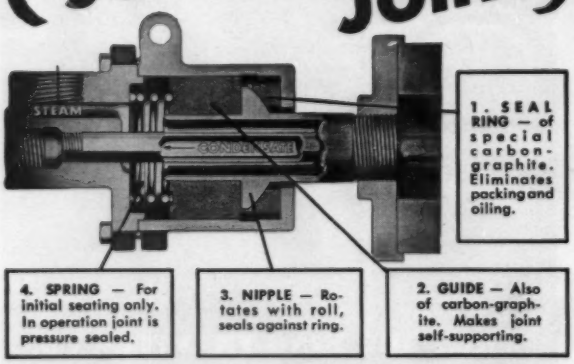
Troubled with harshness, poor finish, uneven shades, redyes, seconds, and other product difficulties—?? The secret of uniformity may lie in your water supply. May we check it for you?

HUNGERFORD & TERRY, INC.

CLAYTON 9 **NEW JERSEY**

Only 4 internal parts in this self-supporting Johnson Joint


STEAM
CONDENSATE
1. SEAL RING — of special carbon-graphite. Eliminates packing and oiling.
4. SPRING — For initial seating only. In operation joint is pressure sealed.
3. NIPPLE — Rotates with roll, seals against ring.
2. GUIDE — Also of carbon-graphite. Makes joint self-supporting.

With this 3000 Series Type S-B2 Joint, an assembly plate can be added at any time; it is used with the Johnson Syphon Elbow, to hold internal parts in position when the head is removed. Write for Bulletin No. S-2001.

The Johnson Corporation

814 Wood St., Three Rivers, Mich.

NEWS about MEN

C. E. Anderson has been named manager of Kingstree Mfg. Co., Kingstree, S. C.

George W. Aufderheide has been named director of the finished-goods division of Berkshire Hathaway, Inc., Providence, R. I.

James D. Barbee has been named vice president of Burlington Mills' Cramerton Div., Cramerton, N. C.

Oliver B. Beckwith has been elected quality-control director of William Carter Co., Needham Heights, Mass.

John Bendheim has been elected a vice president of M. Lowenstein & Sons, Inc., New York, N. Y.

Clifton S. Billings has been elected a vice president of Cheney Bros., S. Manchester, Conn.

H. M. Brabham has been promoted to general manager of Alma Mills, Gaffney, S. C.

Lawrence F. Cash has been promoted to superintendent of quality control at Lane Cotton Mills, New Orleans, La.

Clyde C. Cobb has been named assistant general manager of the Trion Div., Riegel Textile Corp., Trion, Ga.

Eugene F. Crane has been elected treasurer and general manager of Southwell Combing Co., North Chelmsford, Mass.

Preston H. David has been named general manager of the Trion Div., Riegel Textile Corp., Trion, Ga.

J. Neal Dow has been elected president of Vanity Fair Mills, Reading, Pa.

JOHN RICHARD FULP, JR., has been elected assistant vice president and a member of the board of Abney Mills, Anderson, S. C.

Carl P. Duffy has been named vice president in charge of manufacturing at Ripon Knitting Works, Ripon, Wis.

Frank Frey has been named assistant manager of Clarksville Mill, Clarksville, Ga.

James P. Gillies, Jr., has been elected a vice president of Cannon Mills Co., Kannapolis, N. C.

Harry A. Hafner has been elected executive vice president and a member of the board of Cheney Bros., S. Manchester, Conn.

Wylie L. Hamrick has been named superintendent of Alma Mills, Gaffney, S. C.

Ralph P. Hardeman has been named general manager of the Ware Shoals, S. C., plant of Riegel Textile Corp.

James D. Johnson has been elected to the board of Scranton Lace Co., Scranton, Pa.

Harold C. Kelley has been promoted to general superintendent in charge of manufacturing at Berkshire Hathaway, Inc., Providence, R. I.

John R. Lathan has been named plant manager of Altavista Weaving Plant, Altavista, Va.

Arthur B. Lauman has been named plant manager at A. & M. Karagheusian, Inc., Albany, Ga.

Ellis Leach has been elected president of Collins & Aikman Corp., New York, N. Y.

Manford O. Lee has been elected vice president of Vanity Fair Mills, Inc., Reading, Pa.

P. B. Lewis has been appointed plant manager at Burlington Industries' Steele Plant, Rockingham, N. C.

B. Gray Littlefield has been named plant engineer at W. J. Dickey & Sons, Oella, Md.

William G. Liske has been promoted to superintendent of carding and spinning at Cyril Johnson Woolen Co., Stafford Springs, Conn.

Frank L. MacAskill has been named general manager of Bates Mfg. Co. Ltd., Waterloo, Que.

Joseph E. McAdory has been named administrative assistant to the manager at A. & M. Karagheusian, Inc., Albany, Ga.

E. G. McIver, Jr., has been promoted to assistant vice president in charge of manufacturing at Erwin Mills, Inc., Durham, N. C.

W. B. McWhorter has been promoted to supervisor of the Valway Div. of Callaway Mills Co., La Grange, Ga.

Harold T. Marshall has been elected executive vice president of Kendall Co., Walpole, Mass.

Harold G. Miller has been elected chairman of the board of Vanity Fair Mills, Reading, Pa.

William S. Moore has been named superintendent of Florence Cotton Mills, Florence, Ala.

R. R. THOMAS has been named acting superintendent of the Decatur, Ala., mill of Goodyear Tire & Rubber Co., Textile Mills Div.

N. Barnard Murphy has been elected vice president in charge of administration at Riegel Textile Corp., New York, N. Y.

Reece S. Neal has been promoted to overseer of finishing at Callaway Mills Co., Valway Div., La Grange, Ga.

Ray E. Nelson has been named assistant to the president and general manager of Joy Throwing Co., Hartsville, S. C.

Edward Parolisi has been promoted to acting overseer of carding at Sutton's Mills, North Andover, Mass.

Lucien J. Poisson has been named overseer of the spinning department at Bates Mfg. Co., Hill Div., Lewiston, Me.

Robert L. Poovey has been promoted to director of manufacturing for the Automotive Fabrics Div. of Collins & Aikman Corp., Siler City, N. C.

J. Dana Ramsbottom, Jr., has been promoted to superintendent of Bates Mfg. Co., Edwards Div., Augusta, Me.

Philip Reid has been elected a vice president of Cheney Bros., S. Manchester, Conn.

Edmund Rigby has been elected treasurer of Berkshire Hathaway, Inc., Providence, R. I.

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The ordering of maintenance material for textile machinery is simplified with this new Johnson folder which illustrates and describes a wide range of bearings for several leading makes of textile equipment.

You can order in confidence for Johnson Bearings are made to the exact specifications of the original equipment. The design of each bearing, its alloy, size-tolerances and oil grooving all are identical with the bearing to be replaced.

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Any construction to your specifications using any fiber for Men's Wear, Dress Goods, Upholstery, Draperies, Automotive, and so on. Twists, Boucles, Ratines, Knots, Nubs ——

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FALL RIVER, MASS. Dial O'Connell 6-8251

NEWS ABOUT MEN — Continued

J. Lennie Ritter has been named superintendent of the Revolution Plant of Cone Mills Corp., Greensboro, N. C.

William F. Robertson has been named vice president in charge of textile production at Riegel Textile Corp., New York, N. Y.

Earl Rooney has been named superintendent of the Berkshire Hathaway, Inc., mill in Adams, Mass.

L. A. Savage has been elected vice president of the Kendall Co., Cotton Mills Div., Charlotte, N. C.

Claude H. Settlemyer has been named a vice president of Cannon Mills Co., Kannapolis, N. C.

Adelbert Smith has been named overseer of dyeing at William Park & Sons, Inc., Riverside Woolen Mills, Stafford, Conn.

William E. Smith has been named general superintendent of Hadley-Peoples Mfg. Co., Siler City, N. C.

William E. Stark has been named treasurer and comptroller of Interwoven Stocking Co., New Brunswick, N. J.

Harry A. Turner has been named assistant general manager of the Ware Shoals, S. C., plant of Riegel Textile Corp.

A. H. Volbrecht has been elected treasurer of Janesville Cotton Mills, Janesville, Wis.

E. Comer Walker has been promoted to overseer of weaving at Opp Cotton Mills, Opp, Ala.

Wade Webb has been named manager of Bonham Cotton Mills, Bonham, Texas.

OBITUARY

Arthur M. Adams, 74, retired overseer of the former Oneita Knitting Mills, Utica N. Y.

W. M. Allison, 41, superintendent of the Startex Div., Spartan Mills, Startex, S. C.

Southwell F. Bryan, 33, treasurer and a director of Jefferson Mills, Jefferson, Ga.

Walter C. Chandler, 69, retired overseer of the weaving department at Gaffney Mfg. Co., Gaffney, S. C.

Charles G. Correll, general manager of Lamb Knit Goods Co., Colon, Mich.

Stuart W. Cramer, Jr., 63, former president of Cramerton Mills, Cramerton, N. C.

William Duke, 33, superintendent of the finishing department of Jefferson Mills, Jefferson, Ga.

John L. Hutcheson, Sr., 89, founder and chairman of the board of Peerless Woolen Mills, Rossville, Ga.

Stanton C. Kelton, 67, former secretary and a director of Rohm & Haas Co., Philadelphia, Pa.

Martin W. Kuhn, 72, former manager of Rugby Knitting Mills, Buffalo, N. Y.

Benjamin W. Loeb, 83, treasurer of Penn Hosiery Mills, Inc., Reading, Pa.

William D. Mason, 71, former vice president and general manager of Chipman Knitting Mills, Easton, Pa.

Pomp Shaefer, 63, vice president of Lawler Hosiery Mills and manager of Carroll Mills, both in Carrollton, Ga.

John R. Simpson, 80, chairman of the board of Van Raalte Co., New York, N. Y.

Charles Weber, 67, secretary-treasurer of Richmond Piece Dye Works, Richmond, Va., and secretary-treasurer of Fairlawn Finishing Co., Fairlawn, N. J.

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LOS ANGELES: 1125 W. 6th St. (17)

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Wanted: Textile Engineer, around 30, with spinning experience, preferably wool. Knowledge of carbonizing desirable but not required. For fast growing California carpet mill. Very good opportunity. Write P-3465, Textile World.

Circulation manager on industrial publication. Must have sales and writing ability and knowledge of mill work. P-4078, Textile World.

Wanted — Prod'n Management — Western Mass. Well established textile mfg concern has opportunities for training and advancement in production management. College education desirable but not essential. Engineering background helpful. Please reply to P-4085, Textile World, enclosing resume and recent photograph.

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WE CAN PLACE—DESIGNERS: auditors; controllers; production men; dyeing supt., synthetic jig and pad dyeing; knit. mill managers, supts., overseers and fixers.

Woolen yarn supt. overseers, second hands and fixers all depts., industrial engineers and time study men; nar. fab. supts., overseers, designers and fixers; master mechanics and plant engineers; salesmen and demonstrators (several); textile sch. graduates; tricot mechanic; card cutter; chemists and many others.

SEND US YOUR RESUME. Many attractive positions at excellent salaries are open for top-notch men. No fee to be paid unless you accept employment through us. Negotiations are confidential.

CHARLES P. RAYMOND SERVICE, Inc.
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Over 35 Years In Business

POSITIONS VACANT

Wanted experienced sweater fabric finisher. One of the largest West Coast manufacturers of sweaters wants experienced sweater finisher. Excellent fringe benefits program and working conditions for which we are well known. All replies to this ad confidential and all inquiries will be answered. P-4057, Textile World.

Wanted an experienced man who can plan production for moderate size mill weaving novelty yarns. P-4056, Textile World.

SELLING OPPORTUNITY OFFERED

Manufacturer's Representatives and Distributors—wanted to handle sales and service of miniature (¾ H.P. up to 5 H.P.) electric steam generators up to 100 lbs. pressure—each unit bearing a Registered National Board of Boiler and P. V. I. Number, individually inspected under the miniature boiler code. We have specialized in this field for 10 years and desire only men who know and work with steam, or equipment requiring steam for its operation. Please reply Box RW-4033, Textile World.

POSITIONS WANTED

Successful Manager—Supt. desires to make change. Early forties, over twenty years in industry. Extensive knowledge of cotton manufacturing, specializing in weaving, also worked with synthetics. Experienced in selling and sales promotion. Specialized training in management. PW-3561, Textile World.

Overseer of weaving. I have ten years experience ICS Graduate, 48 years old. PW-4081, Textile World.

Progressive Textile man. 20 years experience creating and styling woolens and worsteds with nationally famous mills making mens and womens wear fabrics desires responsible position. PW-4048, Textile World.

British Textile Technician age 37 with 10 years experience in maintenance and production of hard fibres (Jute, linseed straw heneauen and ixtle) at present in Mexico. Desires position. PW-3922, Textile World.

Textile Engineer available; seeks opportunity with manufacturer of woolen, worsted synthetic fabrics knitting yarns. Can undertake full management or superintendent fabricating, finishing. Excellent salesman. Twenty years experience. Highest references. PW-3834, Textile World.

Throwster, Supt. or manager—twenty-five years experience. Quality throwing of all fibers for all trades. Knowledge of modern methods, excellent references. Willing to relocate. PW-3821, Textile World.

TEXTILE CHEMIST

Continued expansion in 3M's Chemical Products Division has created an opportunity for an experienced textile chemist, with five to ten years experience, in textile finishing and dyeing. Experience in use of water repellents and resins extremely helpful. Position involves technical service and development work on new stain repellent finishes for textiles. Proven ability to work with people required; must be willing to accept individual technical responsibility. Salary commensurate with training and experience. Advancement based on merit. Location in St. Paul, Minnesota offers easy access to nation's outstanding hunting and fishing areas. Please write:-

Technical Employment Manager
Minnesota Mining & Manufacturing Company
St. Paul, Minnesota

WANTED
CARDING & SPINNING OVERSEER

For Woolen Knitting Yarns

Located in Philadelphia area. Top opportunity for right man able to assume full responsibility including plant layout and machine erection. Synthetic fiber experience preferred. Please state full experience and salary expected.

P-3883, Textile World
Class. Adv. Div. P.O. Box 12, N. Y. 36, N. Y.

CHIEF ENGINEER

Graduate Mechanical Engineer with at least 10 years' experience in Rayon Industry, preferably in staple, to take charge of Engineering Department. Scope of position covers maintenance, power, design and construction. Administrative ability required.

Please send full resume and salary requirements to:

HARTFORD RAYON COMPANY
Rocky Hill **Connecticut**

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Sales Agent with following available for mill seeking repres. to women's wear trades N.Y. area. RA-4114, Textile World.

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MODERN TEXTILE MACHINERY FOR SALE

Spinning & Weaving

7—Whitin Cards 40", 1948.
15—Whitin Cards, 40", 27" doff.
18—Lowell Cards, 40", 28" doff. Abington Strippers.
24—SL Cont. Draft Drawing, 12" & 15" coiler, 1947.
2—SL Roving 10 x 5, FS2, 128 spdls, 1947.
3—Foster #102 Paper Cone Winders, 100 spdls, 1944.
1—Foster Doubler, #57, 100 spdls.
12—Atwood Twisters, 208 spdls, Model #110, 2 lb. pkg, 6" ga.
6—SL Tape Twisters, 200 spdls, 4" ga., 3" ring.
65—C & K Looms, C4, 78" convertible, 1949.
48—Draper XD Looms, 64", dobby, 1940.
85—Draper X Looms, 40", 1934.
68—C & K Looms, W2, 82", 1937.
1—Uxbridge Air Slasher, 82", 1950.

Dyeing & Finishing

1—Rodney Hunt S. S. 10' Rope Washer.
1—Rodney Hunt Tensitrol Washer, 60", 7 squeezers, 1951.
1—Morrison Simplex Sanforizer, 50".
8—Butterworth 90' Tenter Frames & Housing 50-60" wide.
2—Sets 32 Butterworth Copper Cans, 96".
8—Werner S. S. Dye Jiggs, 70" wide, 1954.
1—Textile Chainless Mercerizer, 56".
7—Butterworth Padders, 50" wide.
2—Textile Calendars, 5 rolls, 50".
1—Morrison Palmer & Quetsch, 64".
1—P & W Chinamen Doubler, 52".
3—A. & G. Roller Dry Towers, 14' x 14' x 17' high, age 1949.
1—Textile Carbomatic Singer, 60".
2—D. G. Semi-Decaters, 60" & 72".

COPPER ROLLERS
W-J-K BORE
45", 46", 48" Long.

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17—Draper 44" XK, Dobby
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1—B. C. Knotter M.D.
114—Spindles Whitin Auto Quillers
4—Whitin C-2 Tricots
64—Universal No 50 Coners, Pineapple; S.S. Rolls
1—Hermas 58" Shearer
1—Cocker Warper, Creel
1—Terrell Bobbin Stripper
1—Johnson Slasher, 60" x 30", S.S., Teflon 7-Drums
12—Reiner RT-1 Tricots

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1—#102 Foster Tube Winder, Low Yoke.

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ECONOMY BALING PRESSES
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One #510 Proctor and Schwartz 8' BOX TOP WILLOW
With Feed Rolls, screw conveyor and tubular type welded blade heater with 8' long Metallic Hinged Apron, also extractor trunk with Eriez magnetic panel, slightly used.
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SMALL THROWING MILL
or 1-Story Bldg. suitable same.
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BUSINESS OPPORTUNITY

We wish to contract for purchases of specially-printed draperies, curtains, other fabrics. Manufacturers, please contact us by letter for details. Textilevania Company, P. O. Box 655, Hyattsville, Md.

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is an index of reliable sources for Used and Surplus Equipment now available. Consult the **Searchlight Section** in every issue for later offerings.

If you don't see what you want—ask for it. Ask the advertisers. They are constantly adding to their stocks and may have acquired just what you need. And, when you have special items to dispose of, use the Searchlight Section of Textile World to help you locate buyers. . . . Send a list of your equipment and we will gladly give full information as to space and rates.

TEXTILE WORLD
Classified Advertising Division
P. O. Box 12 — New York 36, N. Y.

Intertex announces an important **PRIVATE SALE** of the late-type bleaching, printing and finishing machinery, equipment and supplies of

WINDSOR PRINT WORKS

NORTH ADAMS, MASS.

Much of this highly desirable equipment was installed during 1955-56 and will pay for itself in a few years. This is only a partial listing. For the best selection, we urge that you contact us immediately, or plan an early inspection at the plant.

1—**Stainless Steel Continuous Bleaching Range, DuPont System,** consisting of: 50" Kemp Singer, radiant flame; Desizing Box with pneumatic squeeze rolls; 3 J Boxes with steaming tubes and exhaust fans; 2 Saturators; 5 Rope washers; Stainless Steel Tanks for storage of Caustic and Peroxide bleach; 2 Foxboro control panels; 2—30 KW D.C. Motor Generators, 550 volt A.C.

8—**Allen 3 Ton Bleaching Kiers,** 8' dia. equipped with outside heaters; M.D. circulating pumps with Foxboro Temp. Controls.

1—**50" Mercerizing Range,** consisting of: 1—2 Roll Butterworth Micro-Set Padder, 15 ton cap.; 1—3 Roll Butterworth Pneumatic Bullet Padder, 10 ton cap.; 1—50" x 60' Winsor & Jerauld Straight-Away Tenter with S.S. Top opening clips, M.D.; 1—50" Scutcher, M.D. beaters; 1—12' Perkins Bin Piler, with guiders, tanks, pumps and control unit; range equipped with 1—50 KW Reliance D.C. Motor Generator, 550 volts A.C. 1954 Model.

1—**White Drying Range,** consisting of: 1—50" Butterworth Scutcher with double beaters M.D.; 1—50" Butterworth 3 roll Pneumatic Bullet Padder, 10 ton cap. with 2 S.S. rolls and 1 rubber roll, S.S. Tank, Specialty air guiders, M.D.; 1—50" Butterworth Micro-Set 2 Roll Padder, 15 ton cap., rubber covered rolls, S.S. tank with Specialty air guiders M.D.; 1—Butterworth S.S. 30 can dryer, 3 vertical stacks, 35 lbs. pressure, cans 50" face x 23" dia. mounted on B.B. with Union Rotary joints M.D.; 1—55" Butterworth Weft Straightner with electric eyes and controls; 1—52" x 80' Butterworth High Speed Straight-Away Clip Tenter Frame with Andrews and Goodrich Double Penthouse Housing equipped with top open-clips, S.S. plates and inserts, Winsor & Jerauld electric guiders M.D.; 1—50" Butterworth Pneumatic Simpson Batcher with 2 B.B. steel rolls, cut off, M.D. Range also equipped with 50 KW G. E. D.C. Motor Generator with control and panels. 1947 Model.

2—**Morrison Duplex Sanforizing Ranges:** equipped with 50" face x 84" dia. main cylinders and 36" dia. Blanket drying cylinder. Each unit equipped with pup tenters, S.S. top opening clips and electric shoes; 2—48" Cole Spraying Co. sprayers: 1-Range D.C. M.D. with converter, 1-Range A.C.

9—**Rice Barton and Fales Cloth Printing Machines:** 2—5 Color, 2—6 Color, 4—8 Color, 1—10 Color Machines equipped with Mt. Hope model H. Scrays, Dewey & Almy Blanket Washers, S.S. blanket drying cans, Morrison 48" x 60" S.S. Cloth drying cans. All motor driven by General Electric Model A C A Adjustable Speed motors 550/3/60. All above machines were re-equipped with blankets, washers, and dryers, scrays, S.S. drying cylinders and motor drives from 1953 to 1956.

3—**Plisse Units,** consisting of: 1—44" Rice Barton and Fales 4 Color Cloth Printing Machine; 1—42" Rice Barton and Fales 5 Color Cloth Printing Machine; 1—40" Rice Barton and Fales 5 Color Cloth Printing Machine. Each unit equipped with Rubber blankets, washers, and dryers, units M.D. by A.C. Variable Speed motors. 550/3/60.

1—**50" Butterworth Haveg Acid Ager,** with S.S. ball bearing top and bottom rolls; S.S. steam chest; S.S. acid vaporizers; 3 swing folders; S.S. acid storage tanks; exhaust fans; Temp. controls and recorder units. Also complete with D.C. Motor Generator Set 550/3/60. 1950 Model.

1—**50" Textile Finishing Machine Co. Vat Ager,** 24' long with Temp. recorders, swing folders and exhaust fan unit, M.D.

1—**60" Textile Finishing Machine Co. Vat Ager,** 24' long converted to Acid Ager, Equipped with 2 S.S. vaporizers, swing folders, M.D.

1—**50" Butterworth 8 Compartment Open Soaper Range:** equipped with S.S. tanks and 8 Micro-Set Squeeze units Ind. M.D. by 3-H.P. D.C. motors; 1—10 ton Pneumatic squeeze roll; 1—40 Copper Can dryer, cans 23" dia. x 50" face with B.B., Johnson joints, ceiling swing folder; 3 roll compensator; 2 Haveg Mixing tanks. Unit complete with 50 KW D.C. Motor Generator Set, Control Panel and S.S. Exhaust hoods.

7—**50" Hennekens Type 304 S.S. Dye Jiggs,** equipped with 2-H.P. 550/3/60 Gearhead Motors. 1955 Models.

1—**50" Van Vlaanderen and 1—50" Werner S.S. Dye Jiggs,** Ind. M.D. by 2-H.P. Gearhead Motors 550/3/60.

1—**Indigosol Dye Range,** consisting of: 1—50" Butterworth 2 roll Pneumatic Bullet Padder 10 ton cap. M.D. by 15-HP G.E. type A C A Variable speed motor 550/3/60; 6 Compartment open soaper equipped with 2—S.S. compartments and 4 cast iron compartments with squeeze rolls; 1—30 Copper Can Dryer, cans 23" dia. x 50" face. Unit equipped with J Box, swing folder; S.S. exhaust hood; 2—S.S. storage dye tanks and steel soap tanks.

1—**Direct Dye Range,** consisting of: 1—50" Butterworth Scutcher; 1—50" Butterworth 3 Roll Pneumatic Bullet Padder, 15 ton cap.; 2—S.S. rolls, 1 rubber roll M.D. by 20-H.P. D.C. motor, 1—50" Butterworth S.S. 48-can 50 lbs. pressure, cans 23" dia. x 50" face with Johnson Joints, 6 vertical stacks M.D. by 6-3 H.P. D.C. gearhead motors; 1—56" Butterworth 3 roll compensator; 1—56" Butterworth Weft Straightner; 1—50" x 30' Winsor & Jerauld Straightaway Clip Tenter Frame equipped with top opening clips, S.S. Plates and inserts, electric guiders. Unit M.D. by 20-H.P. D.C. motor; 1—50" Butterworth Simpson type Pneumatic Batcher, with 2 B.B. steel rolls, cut off, M.D. by 3-H.P. D.C. gearhead motor; ceiling swing folder. Unit equipped with 50 KW G.E. D.C. Motor Generator with controls and panels, 550 volts A.C.

1—**68" Procter & Schwartz 6 Section Loop Dryer** equipped with 6 ind. motor driven fans. 1953 Model.

2—**50" x 90' Butterworth Straightaway Clip Tenter Frames,** swing type, enclosed in Andrews & Goodrich Double Penthouse Tenter Housing (76' long x 23' 6" wide x 12' 3" high). Tenters equipped with top opening clips S.S. plates and inserts; Specialty air guiders; Winsor & Jerauld electric guiders; swing folders. Units ind. M.D. by 25-H.P. D.C. Motors, blowers and fans on housing M.D. by A.C. 550/3/60 motors.

1—**50" x 60' Butterworth Straightaway Clip Tenter Frame,** with Andrews & Goodrich Double Penthouse Housing equipped with top opening clips, S.S. plates and inserts; Foxwell air guiders; Winsor & Jerauld electric guiders; 50" Morrison B.B. ceiling swing folder. Tenter M.D. by 25-H.P. D.C. Motor, fans and blowers on housing M.D. by A.C. 550 volt motors.

2—**50" Butterworth 24 S.S. Can Dryer,** 65 lbs. pressure, 3 vertical stacks, cans 23" dia. x 50" face mounted on B.B. with Johnson joints; 3 roll compensator; bow expander roll; Ind. M.D. by 7½ H.P. D.C. Motors. 1953 Models.

1—**50" Morrison 48 S.S. Can Dryer,** 50 lbs. pressure, 6 vertical stacks, cans 23" dia. x 50" face, mounted on B.B. with Johnson joints; 3 roll Mt. Hope bow expander; Specialty Air guiders. M.D. by 3-5 H.P. D.C. Gearmotors. 1952 Model.

4—**36" Simpson Type Batchers,** with 2 steel B.B. rolls, cut off, yardage counters. Ind. M.D.

1—**50" Butterworth Simpson Type Pneumatic Batcher,** with 2 steel B.B. rolls, cut off, yardage counter. M.D. by 3-H.P. D.C. motor. 1952 Model.

1—**50" Simpson Type Batcher,** with 2 steel B.B. rolls, cut off, yardage counter. M.D. by 3-H.P. D.C. Motor.

2—**50" Birch Bros. Vacuum Scutchers,** with B.B. beaters, slotted tube, swing folder, expansion tank and Nash Size L-6 Nytor Vacuum Pump. M.D. by A.C. 550 volt motors.

1—**42" Perkins Hydraulic Schreiner Calender,** 100 ton cap., equipped with cooling can, unrolling and batching unit; S.S. hood with exhaust fan, pump and accumulator; M.D.

1—**48" Butterworth 3 Roll Friction Calender,** S.S. cooling can; unrolling and batching unit. M.D.

4—**Reliance & General Electric Variable Speed D.C. Motor Generators,** 3—50 KW, 1—40 KW. 1952/1953 Models.

2—**48" Parks & Woolson Chinaman Doublers,** with backboard inspecting table, yardage counter Ind. M.D. by 2-H.P. A.C. 550 volt motor.

2—**Sullivan Vertical High Pressure Air Compressors,** size 9 x 9, 125 lbs. press., Ind. M.D. by 50-H.P. 550/3/60 motors. Unit also equipped with after-cooler and receiving tank.

4—**Hyster** Model 20 Gasoline Driven Fork & Grab Lift Trucks—2000 lbs. cap.

Approx. 300 Wood Slatted Box Trucks with angle iron reinforced corners and platforms, B.B. rubber casters 6" dia. front and back swivel. I.D. 60" L x 40" W x 35½" D.

Approx. 150 Wood Slatted Box trucks with angle iron reinforced corners, 8½" dia. iron caster, I.D. 53" L x 40½" W x 30½" D.

Lot of Buffalo Vaneaxial Exhaust Fans Ind. M.D. Sizes 15" 24"-36"

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Atwood Redraws—spindleless Molders—12 ox. & 16 ox. capacity
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Universal #250 sizing machines
Universal #50 Pineapple Cone Winders, S. S. emulsion troughs
Universal #50 Tapered End Tube Winders, 1⅝" Dye Tubes
Miscellaneous Mill Equipment, Bobbins, Take Up Tubs

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1-20 Spindle Universal Rotoconer—1953
1-12 Spindle Whitin Schweiter Filling Winder
2-48 Spindle Rut Hollow Spindle Twister

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1—Sipp Warper, 1948, EN8039, Cotton System
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2—B/C Portable Tying Machines—1 LS, 1 LL
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3—Air Compressors for humidification, 5 to 30 H.P.
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2—#50 Cone Winders—1 with Gear Gainer
2—Haskell-Dawes Tubing Twisters—Also 4 Layers
2—Universal Atwood Unirail Uptwisters, Double Deck
4—Universal Atwood Utility Uptwisters
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3—Reiner Warpers, 1948, Model BW-72
2—Johnson Slashers, 1948, Model CS-9
116—C&K W2 Looms, 80" x 82", Convertible 4 x 4
24—Narrow Fabrics Looms, 12 piece to 40 piece
48—Draper E Looms, 56" r.s., Dobby, Leno Motion
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171—Hayes Loom Beams, aluminum, 73" x 32"
304—Allen Loom Beams, adjustable, wood, 70" x 32"
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200M—7⅝", #3 Butt, Bobbins—Excellent
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1M—Pick Clocks, 2 and 3 shifts, complete
1M—12" x 36" Roving Cans, Rolled & Metal Top

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1—Harwood 54" Picker Feed w/magnet, 1944
2—Sargent Mod. 20 Ceiling Condensers, 1948
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1—Schofield 72" Carding Picker, 1950
1—Lazenby Mod. K, 30 sp. Cop Winder, 1952
6—C. & K. 82". W-3 Conv. Looms, 1949
1—Hermas Cloth Meas. & Roll. Machine, 1953
1—P. & W. "Vertitex" Cloth Exam. Machine, 1952
2—Hunter 68" Acid Rinse Bowls, 1948
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3—150 gal. S.S. Tanks, bottom outlet
2—V.V. Decaturs, 72" and 52"
1—30" Hercules Extractor, S.S. Basket
3—V.V. 60" S.S. Tensionless Jiggs
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1—64" Hermas Tuber & Examiner
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1—54" x 40' Tenter Frame, S.S. Clips
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2—60" Eastwood Floppers
2—600 H.P.—B & W Water Tube Boilers, working pressure 175 lbs.

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SEND US OLD PLATE FOR QUOTATION
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Late MACHINERY

PRICED at A FRACTION OF ORIGINAL COST!!

40 U S TEXTILE FACE DRIVE TWISTERS

1950-51 – Headless Package – D. D.

8" GAUGE, 160 SPINDLES PER MACHINE. COMPLETE WITH SEPARATORS, 2 MOTORS PER MACHINE, 440 V, 3 PHASE, 60 CYCLE MAGNETIC STARTERS, COMPLETE WITH NYLON BOBBINS AND ALL ACCESSORY EQUIPMENT.

12 U S Textile 1951 Hi-Speed Redraws

SPINDLELESS, 7" GAUGE, 60 SPINDLES PER MACHINE, MOTORIZED, 3 PHASE, 220 VOLTS, 60 CYCLE.

Late-type DYE HOUSE MACHINERY

1—3' SHALLOW DYE BECK
Rodney Hunt. Stainless Steel, open top. 1947 model.

JAMES HUNTER 1950 2' SAMPLE DYE BECK
Stainless Steel. Totally enclosed. Complete.

2—BEAM TO BEAM POWER INSPECTION FRAMES
Van Vlaanderen and Progressive. 75" to 64" face rolls. Variable speed forward and reverse.

4—VAN VLAANDEREN TUBING MACHINES
High speed, 70" cloth. 1948-1950 model.

1—VAN VLAANDEREN 70" STAINLESS STEEL DYE JIG

MONEY MAKING NARROW FABRIC LOOMS

8 FLETCHER 48-49 VENETIAN BLIND LOOMS
24 space 4 shuttle cross shot.

4—C&K VENETIAN BLIND TAPE LOOMS
2 shuttle cross shot string tape.

2—1947 FLETCHER LIGHT NAME TAPE LOOMS
like new condition

12—1947 C&K TAPE LOOMS
Heavy duty chain heads. 30 space battens, pick clocks, motorized.

4—1951 STAINLESS STEEL HUSSONG DYEING MACHINES
600 lb. capacity

1—1953 STAINLESS STEEL HUSSONG DYEING MACHINE
100 lb. capacity. Complete with motor.

KLAUDER WELDON TYPE
1952 STAINLESS STEEL DYEING MACHINE
Complete With Controls & Motorization

1—ROYLE 400 & 600 CONVERTIBLE JACQUARD REPEATING MACHINE
Phila.-Index

1—1949 GLODDIE QUILLING MACHINE
Belt driven. Complete with motorization and auxiliary equipment.

90 Late type NYLON CONERS

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Stainless steel emulsion rolls and troughs. Pineapple attachments. L-drive, gear gain. Motorized in units of 12 spindles.

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2500	2¼"	4⅜"	7½"
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1500	2¼"	3⅝"	8"
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EXTRACTORS—STAINLESS STEEL
48" Tollhurst 42" American Laundry

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42 C&K W3 Looms, 82" MD
1 Fletcher 48" Extractor, 1948, MD, S.S.
2 Collins Fancy Twisters, 200 Spindles, 4" Gauge, MD
7 D&F 2 Cylinder Worsted Cards, 60"x 54"
12 C&K 82" W3 Looms for Duck, Plastic, Saran, MD
200 M 8" Filling Bobbins
1 Sargent Bagging Machine
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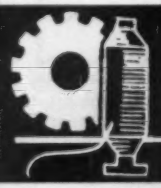

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1—Raw Stock CONDITIONER, 8' Sectional apron, c/Reeves, fans, motors.
3—Whitin 48" Broadband Int. FEEDS, c/J1 Conveyors, F1 Tables.
4—Sargent, P&S Wet Stock PIT FEEDS, 48", 78", Reeves drives, Motors.
1—Harwood 72" Hopper FEED, type 563, Variable drive, extended hopper.
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3—J. Hunter GARNETTS 60"x30", 4 Cyl., hopper feeds, windup heads.
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1—Gerry 48" LUMPER, feed table, ball bearing cylinder.
1—D&F SHREDDING PICKER, 12 bar, B.B. Cyl., w/lattice feed table.
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1—G&Y Card Spool STRIPPER, 56" spools, B.B., motor drive.

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1—McCreary KNITGOODS NAPPER 60", 10 Rolls, folder.
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1—Gessner Apron type ROTARY PRESS, 72" Cyl., motor drive.
2—C&M Flat Blade Single SHEARS, 60", 66¾", folder, motor drive.
2—P&W Model A, 66" Double SHEARS, folder, motor drive.
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Classified Advertising Division
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P. O. Box 12 New York 36, N. Y.

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VACUUM PUMPS

For the Finest in Rebuilts

1902 AMERICAN 1957

93 CFM 100 psi 7x6 Ingersoll-Chicago
137 CFM 100 psi 7x7 Ingersoll ES1
173 CFM 100 psi 9x8 American-Ingersoll
234 CFM 100 psi 9x9 Chicago (St.) New
254 CFM 115 psi 10x10 Ingersoll ER1
283 CFM 35 psi 10x7 Ingersoll ES1
290 CFM 75 psi 10x9 Ingersoll ES1
354 CFM Vacuum 14x5 Ingersoll
364 CFM Vacuum 14x6 Ingersoll
368 CFM 100 psi 12x10 Ingersoll ER1
420 CFM 40 psi 12x9 Ing ES (New) 2
434 CFM Vacuum 14x7 Worthington HB
502 CFM 125 psi 12x13 CP-T
593 CFM 100 psi 13½-8x8 Ing. XRE 100 HP-3-60-440-.8 PF
622 CFM Vacuum 18x6 Ing.
686 CFM 100 psi 14x13 Ing. ES1
730 CFM 50 psi 15x11 Ing. ES1
868 CFM 100 psi 17-10¼x14 Ing XRB2
1600 CFM 40 psi Fuller C-300-Syn
1717 CFM 20 psi 23x13 Ing. ES1

NEW IN 1950

1665 CFM 42 psi 16-16x12 Ing XRE1 3-60-550

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Equipment Designed to Acid Treat Wastes from Wool Scouring Operations. Includes—Oliver Precoat Filter, 5'3" dia. x 8' face; Vacuum Pump; 18' dia. lead lined reacting tank; motors, piping, pumps, agitators, etc. Built 1951, UNUSED.

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ST 4-3505

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1—VV 50"—56" Palmer-tenter 1941
3—Beamers—50"—60"
1—Werner—2 Roll—70" 7½ ton Air Pad
1—Measure-o-graphs—70"
1—VV—72" Palmer—low type
1—VV—64" Buttonbreaker
1—78" Scutcher brass rolls
1—82" tuber, Spare quetch, calendar and pad rolls
1—Hinnekens 20 ton pneumatic embosser
1—Hercules 48" extractor stainless steel basket
2—Werner—50" SS Jiggs
1—set 14—109" copper cans
2—VV 60" tensionless jiggs
2—68" SS cans

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Synthetic, Throwing and Weaving Plant

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LOOMS

145—DRAPER 46" MODEL XD CAM LOOMS, 54" Reed Space 26—Order #8770, Age 1952, Diehl transmissions 119—Order #7989, Age 1948, 1-HP Diehl Motors, 1745-RPM

126—DRAPER 50" MODEL XD LOOMS, 58" Reed Space Order #8057, Age 1949, 6 Harness Cams, 1-HP GE Motors, 1750-RPM. Looms have double arches extended shafts. Can furnish 80 XD good dobbies

52—DRAPER 64" MODEL XD LOOMS, 20 Harness Dobbies, 73" Reed Space 32—Order #7646, Age 1948, 1-HP West. Motors 440 volt 20—Order #7998, Age 1948, 1-HP, 550 volt Motors

MISCELLANEOUS WEAVING EQUIPMENT

1—VOLLENWEIDER "ROBOT" REED AND HEDDLE BRUSHING MACHINE, Age 1951, Brushes Emery & Carborundum Stones, c/w Motor Driven Dust Exhauster

1—BARBER-COLMAN WARP DRAWING-IN MACHINE, Age 1953, Model 66GSH, Serial #83, Max. 20 Harness & 8 Banks of Drop Wires

1—B-C PORTABLE TYING-IN MACHINE, Model LS—56", Serial #18, Age 1951, Motorized

3—B-C PORTABLE TYING-IN MACHINES. 2—Model LS hand operated. 1—Model LL hand operated

BOBBIN STRIPPERS & POLISHERS

2—TERRELL TYPE L BOBBIN STRIPPERS with Loading Hoists

1—NASH TYPE 79-12 BOBBIN WASHER & POLISHER, Ser. #511809 ½-HP 550/3/60 Motor, Automatic Abbott Winder Type Feed c/w M.D. Bobbin Hoist & Hopper

1—NASH #88 TYPE 12 SPOOL SANDER & POLISHER, Serial #481643 3-HP, 220-440 volt Motor c/w Hood & Motor Driven Exhauster

QUILLERS

9—ABBOTT AUTOMATIC QUILLERS, 7—120 spindles each. 2—100 spindles each. Ages 1948-1951. All with Pinboard Attachments, Bobbin Hoists, Cycle Changers and Counters, Double Disc Tensions, Voltmeters 3 with Kidde Tensions

48—SPINDLES OF WHITIN SCHWEITER WINDERS OR QUILLERS. Model MS, 1941. 12 Spindle Sections. 1 Motor drives 2 Sections.

14—UNIVERSAL #90—20 SPINDLE FILLING QUILLERS. Equipped with Bunch Builders, Overhead Disc Tensions, Individual ½-HP G.E. 550 volt Motors, 1750-RPM

WARPING and SLASHING

2—REINER HIGH SPEED WARPERS, Serial #500. Positive Gear Drive. 1—Age 1950. 1—Age 1949. With 2 Cocker 800-end Magazine Cone Creels, 5-lb. Cone Eye Board Stop Motions with Annunciators

1—COCKER HIGH SPEED WARPER, Age 1950, Serial SD40, with Cocker 800-end Magazine Cone Creel 5-lb. Cone, Eye Boards, Stop Motions, Annunciators

2—ENTWISTLE HIGH SPEED WARPERS 54½" complete with Magazine Cone Creels

2—JOHNSON 7-CAN RAYON SLASHERS. Serial #657 and #805. S.S. Cans 62" face x 30" diameter

THROWING EQUIPMENT

10—ATWOOD 10-B TWISTERS. 100 Spindles each, Age 1949, 4¼" Albrecht Rings, 7" gauge, 2-lb. Package

28—ATWOOD MODEL #110 HEADLESS PACKAGE UPTWISTERS. Age 1944-1951. 184 Spindles each. 6" x 4"—2-lb. Package, Heanium Guides, 550 volt Motors

4—ATWOOD MODEL 200 REDRAW FRAMES. 92 Spindles each, Age 1941-1948

2—U.S. DOUBLE DECK REDRAW FRAMES. 192 Spindles each for Utility Twisters

2—UNIVERSAL #50 WINDERS individually motor driven. Age 1953-1954

CLOTH ROOM

21 — MEASUREGRAPH INSPECTING MACHINES, size 72" wide x 42", Double Supply Rolls, Adjustable Speed Control, Reverse Motions, Yardage Counter ¼ yd., 550 volt motors

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Nylon & Rayon beams

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7—ATWOOD uptwisters, 8 ounce, utilities, just rebuilt.	20—ATWOOD-SIPP & U. S. REDRAWS. Spindleless.	24 spindles SCHWEITER WINDERS.
40—FLETCHER 100 spdle. doublers, 6" T x 4" ring.	1—FLETCHER REDRAW spindleless—to rewind. Dupont Pirns.	2—S. S. AUTOCLAVE 6' x 12'—1955. 38"x9'—1955.
35—ATWOOD 10-B 6" T x 4" ring.	8 SIPP REDRAWS spindleless—4½ & 6" trav.	8 ATWOOD 10-B's 8" trav. x 4¾ ring.

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4—5' x 54" Face, S.S. Print Machine Dry Cans, with Frames.

1—P. & W. 54" Double & Rolling Machine.

1—Fletcher 42" Whirlpool Stainless Steel Extractor. Reeves Drives, open and totally enclosed, from size 000 to 6; also Motors, all sizes.

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146 West River Street, Providence 1, Rhode Island Dexter 1-8837

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Additional Wanted Ads on pages 250 and 253

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New and Rebuilt Baling Presses
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USED
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W-3813, Textile World
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WANTED
Proctor & Schwartz Camel Back Lappers
W-3550, Textile World
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WHITIN BW SPINNING FRAMES
GENERAL DESCRIPTION, INCLUDING YEAR BUILT, PHASE AND VOLTAGE OF MOTORS, NUMBER OF SPINDLES AVAILABLE PRICE PER SPINDLE.
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and
80 end Whitin Tape Condenser
Model K4A, K4B, or K4DB
W-4083, Textile World
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Index to ADVERTISERS Keyed by PRODUCT

A HELP TO YOU. This unique TEXTILE WORLD index, particularly if consulted for two or more consecutive issues, affords a valuable source of information on the latest products and services available to the textile industry. Its comprehensiveness is the result of the fact that TEXTILE WORLD, having the largest paid circulation and highest readership of any textile-mill magazine in the world, carries the largest volume of advertising.

HOW TO USE. First, look in the table below and find the letter that designates the class of supply or service in which you are currently interested. Then consult in the index the page numbers that are followed by that letter.

A. Air Conditioning, Air Cleaning.
B. Building Construction and Maintenance, Paints, Yard Equipment, Water Supply.
C. Chemicals and Dyestuffs.
D. Cleaning Equipment.
E. Dyeing, Finishing, and Cloth Room Equipment and Supplies.
F. Electrical Equipment—Motors, Controls, Lighting, Etc.
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P. Materials Handling, Packaging, and Shipping Facilities.
Q. Power Generation and Transmission (see also Electrical Equipment).
R. Weaving and Warp Preparation Equipment and Supplies.
T. Yarn-Production, Twisting and Winding Equipment and Supplies.

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Canvas Basket Craftsmen Since 1894

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W. T. LANE & BROS., INC., Poughkeepsie, New York

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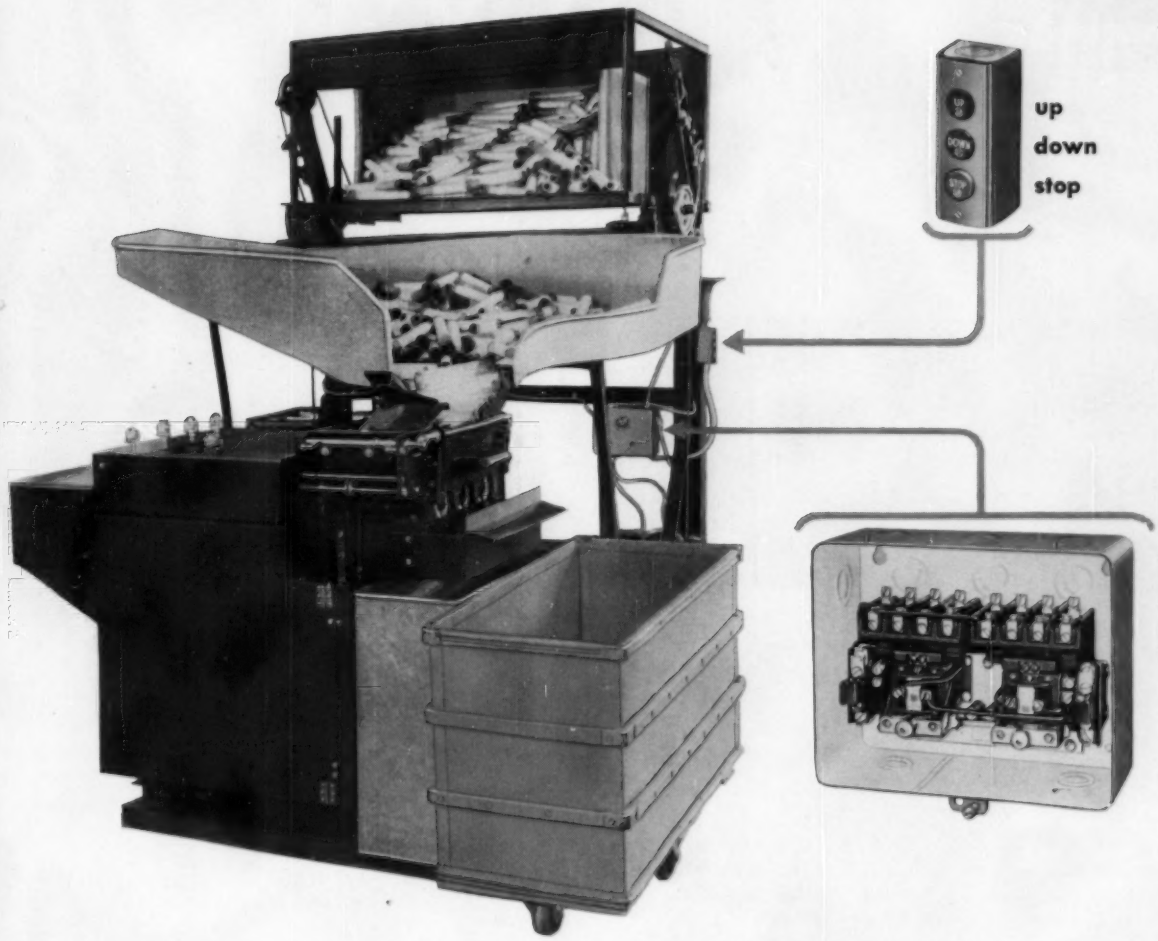

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